Northwest Training Range Complex Management Plan

Volume II

FINAL Draft

Prepared for:

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and

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EXECUTIVE SUMMARY

The Northwest Training (NWT) Range Complex Management Plan (RCMP) is developed under the Commander, U.S. Fleet Forces (USFF)/Pacific Fleet Tactical Training Theater Assessment and Planning (TAP) program to ensure that the Northwest Training Range Complex (NWTRC) is sustainable and capable of supporting Navy readiness training for the foreseeable future.

STRATEGIC VISION

The USFF strategic vision for the NWTRC is to provide sustainable and modernized ocean operating areas, airspace, ranges, range infrastructure, training facilities, and resources to fully support the Fleet Readiness Training Plan (FRTP) in accordance with assigned roles and missions. For purposes of Fleet training, the NWTRC includes training operations that occur at the Naval Undersea Warfare Center (NUWC) Keyport Range Areas including Dabob, Keyport and Nanoose range sites. The NWTRC is the principal backyard range for surface, submarine, aviation, and Explosive Ordnance Disposal (EOD) units located at Naval Air Station (NAS) Whidbey Island, Naval Station (NS) Everett, Naval Base Kitsap – Bremerton, Naval Base Kitsap – Bangor, and Puget Sound Naval Shipyard.

While the Navy has not yet designated all range sites to be Joint National Training Capability (JNTC) certified, strategic planning for the NWTRC should proceed in anticipation of its role as a part of the JNTC system of ranges.

The required roles and missions to support the strategic vision for the NWTRC are defined as warfare areas and levels of training, as listed in Figure ES-1. The complex is required to support training in seven Navy Primary Mission Areas: Anti-Air Warfare (AAW), Anti-Surface Warfare (ASUW), Anti-Submarine Warfare (ASW), Mine Warfare (MIW), Strike Warfare (STW), Electronic Combat (EC), and Naval Special Warfare (NSW). These roles and missions are based on requirements as determined by USFF and do not reflect a range complex’s capabilities.
## RANGE COMPLEX OPERATIONS

The principal focus of the NWTRC RCMP is training and test operations that support the Navy Fleet Readiness Training Plan and Naval Special Warfare training. The NWTRC is most readily used by and therefore most valuable to local units. Expansion of these units as well as new platform capabilities will likely cause an increase in operations at NWTRC. For example:

- The P-8 capability to control the Broad Area Maritime Surveillance (BAMS) Unmanned Aerial Vehicles (UAVs) will contribute to the increase in UAV training missions in addition to future requirements for UAV platforms such as Fire Scout, Global Hawk, and Predator.
- Additional Guided Missile, Nuclear Powered Submarine (SSGN) homeported at Bangor will increase the level of future ASW, NSW, and UAV operations.
- The newly completed Collaborative Test and Evaluation Capability (CTEC) at NUWC Keyport, enabling units to perform live, virtual, and constructive Test and training exercises, will enable USW/ASW/MIW Test, Training, Experimentation, and Evaluation (T2E2) to be accomplished anywhere, anytime.

The NWTRC also provides sites for non-fleet training operations such as those conducted by the Oregon National Guard (ORNG). The ORNG’s proposal to construct and operate two new live-fire weapons training ranges at the NWSTF Boardman will increase operations, allowing use of the ranges for unit training year-round.

## CAPABILITIES ASSESSMENT & INVESTMENT STRATEGY

The current Range Complex capabilities were analyzed and compared to the required range capabilities listed in the most recent edition of the Required Capabilities Document (RCD). Based on this analysis, severe and moderate capability shortfalls have generated...
priority ONE (1) and TWO (2) investment recommendations as shown in Figure ES-3:

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<tr>
<th>Range Complex Capability Gap</th>
<th>Action Priority</th>
<th>Investment Recommendation</th>
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<tr>
<td>Numerous increased roles and responsibilities for the Range Complex Coordinator (RCC) staff.</td>
<td>1</td>
<td>Increase the size of the RCC Staff.</td>
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<tr>
<td>NWTRC lacks current environmental coverage for operations conducted.</td>
<td>1</td>
<td>Complete environmental planning for NWTRC operations.</td>
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<tr>
<td>Lack of multi-axis Electronic Warfare emitter capability in the NWTRC. Impacts both surface ship and aircraft Electronic Combat training.</td>
<td>2</td>
<td>Acquire Electronic Warfare emitters for NWSTF Boardman and for Pac Beach.</td>
</tr>
<tr>
<td>NWTRC lacks adequate instrumentation to provide replay and debrief capabilities for aircrew.</td>
<td>2</td>
<td>Acquire high-fidelity tracking capability for NWTRC.</td>
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Figure ES-3. Capabilities Assessment and Investment Strategy

ENCROACHMENT ANALYSIS

The Northwest Training Range Complex encroachment analysis identified seven severe impacts caused by airborne noise and/or operational constraints at the Seaplane Base Demolition Training Range. There are 75 moderate impacts from six additional encroachment issues, namely: maritime sustainability, airspace restrictions, urban growth, water quality, cultural resources, and range transients. A summary is presented in the following table.

<table>
<thead>
<tr>
<th>Range</th>
<th>Encroachment Impacts Considered Severe</th>
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<tr>
<td>Seaplane Base Demolition Training Range</td>
<td>• 2 impacts due to Airborne Noise</td>
</tr>
<tr>
<td>Operational Range Sites</td>
<td>• 7 impacts: Maritime Sustainability, Urban Growth, and Airspace Restrictions</td>
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<tr>
<td>NUWC Keyport Range Sites</td>
<td>• 25 impacts: Maritime Sustainability, Water Quality, and Range Transients</td>
</tr>
<tr>
<td>EOD Range Sites</td>
<td>• 43 impacts: Maritime Sustainability, Cultural Resources, Airborne Noise, Urban Growth, and Range Transients</td>
</tr>
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</table>

Figure ES-4. Encroachment Impacts

NON-INVESTMENT PROJECT RECOMMENDATIONS

Additional strongly recommended initiatives developed in this RCMP, include:
Environmental, Natural Resources & Land Use Management

- Engage in discussions with the National Marine Fisheries Service regarding the Southern Resident killer whale critical habitat regulations.
- Engage in the Olympic Coast National Marine Sanctuary Management Plan review process.
- Ensure that Oregon Army National Guard actions are consistent with Navy Operational Range Clearance policies and Range Sustainability Environmental Program Assessment at NWSTF Boardman.
- Implement NAS Whidbey Island AICUZ and NWSTF Boardman RAICUZ recommendations. Develop revised RAICUZ for NWSTF Boardman if deemed necessary.
- Review and update the cooperative management agreement with The Nature Conservancy at NWSTF Boardman.
- Develop and negotiate approved de minimis activities in each coastal state that will not require additional coordination under CZMA; and
- Review Navy range SOPs & instructions to ensure that operating procedures address all environmental, resource management & land use constraints prescribed by relevant plans, permits, agreements, real estate instruments, and other compliance documents.

Data Management

- Develop and implement a Range Complex data collection plan.

OUTREACH

Stakeholder outreach recommendations are specifically designed to address the existing or anticipated encroachment and sustainability challenges of the NWTRC. Areas in which strategic outreach and communication can support overall range encroachment management primarily involve:

- Marine resource and marine mammal protection efforts,
- Land use planning decisions,
- Range transients,
- Airspace encroachments,
- Environmental stewardship programs and pollution prevention measures, and
- Urban encroachment and noise issues.

Recommended communication efforts designed to address encroachment issues and promote sustainability objectives include:

- Develop a joint Fleet/Regional outreach program to maintain, expand, and improve relationships with NOAA, NMFS, state regulatory agencies, and NGOs that have the ability to
positively or negatively impact Navy marine training operations.

- Continue a proactive approach to marine mammal and marine resource issues by participation in Advisory Councils and working groups; seek opportunities to partner with regulatory agencies and NGOs in marine mammal protection programs.
- Solidify relationships and foster additional cooperative partnerships with regulatory agencies and NGOs for establishing buffer zones, and implementing land conservation and species and habitat protection programs.
- Proactively work with local elected officials, planning agencies, Native American tribes and nations, and community members in the region to minimize range transients and urban encroachment issues.
- Sustain civic and community organization support for the Navy’s significant regional and community contributions.
- Garner positive media coverage of the Navy mission, range-related issues, community activities, and environmental stewardship and cleanup programs through an active media outreach program.

The crucial factor for the successful development and implementation of a range complex-wide strategic outreach program is internal coordination and accountability. Sharing information among the various Installations, range users, public affairs, and environmental planning divisions of the Commands, Region, and Fleet is critical to facilitate a unified, consistent, targeted, multifaceted, and sustained communication program. It is strongly recommended that the NWTRC develop and implement a range complex-wide Encroachment Outreach Plan (EOP), guided by overarching Navy policy yet tailored to specific communication objectives and encroachment and sustainability issues facing the NWTRC. The EOP should be developed and implemented by an EOP working group (with contractor assistance, as needed), a subgroup of the Range Complex Management Team (RCMT). The EOP working group should be comprised of COMPACFLT, CNRNW, NAVSEA, Command, and Installation public affairs, range, and environmental representatives, and meet quarterly.

Most members of the general public, government agencies, elected officials, and NGOs are unaware of the many involved departments and Commands or division of labor within the Navy regarding encroachment issues. There is a significant need for one POC for encroachment issues for the NWTRC. It is strongly recommended that CNRNW establish one POC that is responsible for communicating information to stakeholders or referring issues to the appropriate subject matter expert or POC. A Regional Community Plans & Liaison Officer working directly for the Regional Commander would be a solution. This would go far in improving
the accessibility of information to the public, reduce frustrations, and ensure greater accountability.

**Organization and Processes**

The Range Complex Coordinator (RCC) will be responsible for range complex sustainability management, and for optimizing its capabilities. This RCMP outlines a robust series of sustainability recommendations, and as the RCC organization matures, other opportunities will present themselves. Implementing these, as well as promulgating an overall range complex management program, will require a qualified support staff able to devote considerable time and resources.

A Range Complex Management Team (RCMT), composed of active duty personnel, U.S. civil service employees and contractors, will assist the RCC in this endeavor. The RCMT will draw its federal members primarily from USFF, Commander, Navy Region Northwest (CNRNW) and Naval Facilities Engineering Command, Northwest, all of whom will report to the RCC as a collateral duty on an as-needed basis. However, given manpower and funding realities, the amount of time they can devote exclusively to establishing and managing the RCC organization is limited. USFF currently has a request for funding of a permanent RCC staff in POM 08. In the interim, the Navy can most readily obtain the necessary support via existing contract vehicles for the Range Complex Coordinator Support Team (RCCST), a reach-back cell of contractors available to all Pacific Fleet RCCs.
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1 INTRODUCTION

The Commander, U.S. Pacific Fleet (COMPACFLT) sponsors this Range Complex Management Plan (RCMP) for the Northwest Training Range Complex (NWTRC). The RCMP is developed under the Navy’s Tactical Training Theater Assessment and Planning (TAP) program. As part of the TAP process, the RCMP is developed in two volumes. Volume I is a Guidebook with general background material, which provides a framework for installation and range commanders to develop detailed sustainability plans. The overall purpose of this Volume II is to ensure that the NWTRC is sustainable and capable of supporting readiness training for the foreseeable future.

The NWTRC RCMP Volume II provides empirical data, analysis, and guidance concerning the specific ranges and operations within the range complex. The objective of the guidance is to clearly articulate a mission and a “commander’s intent” without prescribing how the mission is to be accomplished. The primary purpose is to guide actions to promote sustainability. The RCMP is intended to be analytic rather than encyclopedic, outlining issues, presenting observations, and proposing possible solutions for staff review and action. To aid in the description of the NWTRC, the complex is divided into four major geographic and functional subdivisions. The following is a listing of each of the individual ranges, by major range subdivision:

- Offshore Area
  - Pacific Northwest Ocean Surface/Subsurface Operating Area
    - W-237 (A/B/C/D/E/F/G/H/I)
    - W-93 (A/B)
    - W-570
- Inshore Area
  - Naval Weapons Systems Training Facility (NWSTF) Boardman
    - Boardman Military Operating Area (MOA)
    - Restricted Area 5701 (R-5701) (A/B/C/D/E)
    - R-5706
    - Bombing Range
  - Admiralty Bay Mining Range
    - Chinook MOA (A/B)
    - R-6701
    - Navy 7
  - Okanogan MOA (A/B/C)
  - Olympic MOA (A/B)
  - Roosevelt MOA (A/B)
  - Darrington Operating Area (OPAREA)
  - A-680 (Outlying Landing Field Coupeville)
  - Naval Air Station Whidbey Island Survival Area
1.1 **Northwest Training Range Complex Sustainability Goals**

Department of Defense (DoD) Directive 3200.15, Sustainment of Ranges and OPAREAs, defines range sustainment as “managing and operating ranges to support their long-term viability and utility to meet the National defense mission.” Range sustainment will:

- Ensure that ranges are capable of supporting current and future operational requirements while protecting human health and the environment
- Protect natural and cultural range resources
- Promote understanding of readiness, safety, environmental, and economic issues regarding range use and management
- Consider stakeholder interests in range design, use, and management, and
- Facilitate the return of ranges to non-military uses

Volume I of the RCMP outlines an initial set of principles to achieve range sustainability:

1. Strategic planning
2. Formal Organizational Structures and Processes
3. Clearly Defined Requirements
4. Identify Encroachment Impacts
5. Interdisciplinary Approach
6. Solutions to Encroachment
7. Use Best Practices in Range Design and Use
8. Use metrics
9. Manage Natural and Cultural Resources Externally and Internally
10. Community and Stakeholder Involvement
TAP is the Navy’s program of record to ensure access to and the sustainability of military training ranges and operating areas. As the first document in the TAP process, the RCMP will contribute to protecting the operational capability of the NWTRC from encroachment, noncompliance with environmental regulations, obsolescence of range infrastructure, and fragmented management. The NWTRC RCMP is an integrated operational and environmental planning document, designed to improve range sustainability by identifying, preserving, conserving, and developing range resources for future use. The NWTRCRCMP has several specific purposes:

- Provide descriptions of ranges, OPAREAs, and training areas
- Characterize a representative number of current range training and testing operations
- Develop Joint and individual Military Service strategic visions for future range operations with a 10-year planning horizon
- Identify and analyze encroachment and sustainment challenges
- Provide recommendations for further environmental planning
- Identify and analyze required capabilities (requirements) shortfalls derived from military training and testing needs
- Outline investment needs for maintenance, range improvement and modernization, and discuss these in relation to current Service investment initiatives.

1.1.1 Implementing Strategic Planning

Range sustainability requires strategic planning to ensure that the NWTRC is providing the capabilities required by assigned roles and missions in support of the strategic vision (see Section 6.1). This planning must be guided by a set of defined principles that apply directly to issues such as required growth, encroachment, and future Navy training requirements.

The strategic vision outlined in Chapter 6 is derived from the Navy integrated training and test range strategic study sponsored by Fleet Forces Command. Highlights of this study that help to shape the Range Complex’s strategic vision are as follows:

- The study established a baseline of range inventory and capabilities within the NWTRC.
- Understanding that the range complex should be capable of supporting the totality of training requirements for the Pacific Northwest region, specific roles and missions were assigned.
- The roles and missions then drive the range complex strategic vision by creating the groundwork for a range capabilities assessment.
- The range capabilities assessment generates a fully developed, well-justified investment strategy.
A June 2005 Governmental Accountability Office (GAO) report found that training capabilities are compromised by deteriorating ranges and a lack of upgraded facilities. Among the range sustainability recommendations, the GAO suggested the military improve on its management of range funding by matching range requirements with needs. The RCMP accomplishes this through the capabilities assessment in Chapter 7, which ultimately leads to a comprehensive investment strategy.

In addition to a fully developed, well-justified investment strategy, the other major cornerstone of strategic planning is forward-looking range complex operations environmental planning. This RCMP is the foundational document for any subsequent National Environmental Policy Act (NEPA) documentation, providing a thorough description of the ranges within the NWTRC, an analysis of current and future operations conducted on these ranges, and a baseline of environmental and land use management programs. The operations analysis will support development of a range complex proposed action and alternative for follow-on environmental planning.

1.1.2 Formal Organizational Structures and Processes

Successful range complex sustainability management practices rely on an organization with the structure, procedures, planning, methods, coordination, and processes that address range sustainability issues. Some of the many components crucial to this process include, but are not limited to, a range information management system, data analysis capability, clear definition of roles and responsibilities, well-defined range procedures, and committed senior sponsorship.

Some of the organizations that provide the NWTRC with the assets, infrastructure, management, and support to sustain the complex include Commander, U.S. Fleet Forces (USFF), COMPACFLT, Commander Naval Installations Command, Naval Sea Systems Command, and Naval Air Systems Command. Chapter 9 provides more detailed information on the relationships between these commands and the NWTRC ranges.

1.1.3 Encroachment Impacts and Solutions

Preparing the NWTRC RCMP involved developing encroachment matrices to describe encroachment impacts on the NWTRC ranges. The encroachment impacts are evaluated against 11 environmental issues affecting the ranges.

The matrices constitute a tool that range managers can use to identify, isolate, and resolve those impacts most pressing on range capabilities and the training mission. The matrix format helps to focus range managers on the main issues while deemphasizing the minor encroachment impacts.
Encroachment mitigation is the logical follow-on to encroachment identification. Range managers, environmental staffs, and operators have the breadth and depth of knowledge to identify and analyze encroachment and its impacts on training and testing. Likewise, they are in the best position to develop and implement encroachment mitigation solutions. The operators, in particular, are directly affected by encroachment and gain the most from encroachment mitigation. The different perspectives of and contributions by range managers, environmental staffs, and operators provide comprehensive encroachment analyses and holistic encroachment mitigation solutions.

Secretary of Defense sustainable ranges guidance identifies areas in which the services may pursue encroachment solutions. Office of the Secretary of Defense intends for the services to support and invest in these areas, which include:

- Acquiring buffer zones or employing other mitigation strategies around all ranges to support current and reasonably foreseeable future operations
- Developing and implementing quantification and reporting processes for encroachment impacts
- Developing service-wide range inventories and databases covering all ranges
- Revitalizing Air Installation Compatible Use Zone, Range Air Installation Compatible Use Zone, and noise programs
- Promoting urban growth management programs at local, regional, state, and federal levels

### 1.1.4 Using Best Practices in Range Design and Use

Long-term range sustainability requires the implementation of best practices not only in the use of the range but also in the modification of existing ranges and the design of new facilities. This implementation of best practices allows for more efficient land use and minimizes the impact each range has on the environment.

The development of this RCMP has provided an opportunity for range managers to examine the best practices of other ranges.

### 1.1.5 Employing Use Metrics

Data collection and data management have emerged as important processes in sustainable range management. Range use metrics determine the type of data that will be collected to support operational, environmental, and investment planning. Environmental planning cannot be completed without knowing what operations occur on the range complex. Sustainment planning is severely limited without understanding the encroachment impacts on range operations and management. Correlating encroachment and
sustainment prerogatives with range capabilities and training requirements facilitates investment planning.

Certain data categories are required for range management:
- Range Descriptions
- Current Operations
- Environmental, Natural Resources, and Land Use Management Programs
- Encroachment and Sustainment Challenges
- Range Complex Strategic Planning
- Range Complex Capabilities Assessment
- Project Recommendations
- Organization and Processes
- Community Involvement
- Investment Plan
- Geographic Information Systems
- Supporting Documents

Each data group is composed of smaller collections of data, or data elements that must be independent of the mitigating effects of workarounds. Data must also expand beyond the traditional collection process involving air activities, range events, and aircraft sorties to a more expansive collection activity that includes the data listed above. Once data is collected, compiled, and analyzed, the data will provide range managers with quantifiable statistical evidence of range complex capabilities, encroachment impacts, sustainment imperatives, and investment shortfalls.

It is important that the metrics developed correspond to the range’s sustainability goals and that they be relatively easy to document and, if need be, conveyed to the public.

1.1.6 Managing Natural and Cultural Resources Externally and Internally

Natural and cultural resources must be managed externally and internally. Ranges are influenced by external factors that must be integrated with range management and operations. Community and public planning have direct bearing on range activities. Regional, State, and Federal efforts place the ranges into a larger context. External pressures from all levels provide impetus for a comprehensive regional ecosystem management approach to range encroachment and sustainment.

Moreover, real property alternatives can provide buffer zone areas and compatible use zones. Integrated natural and cultural resource management plans, as alternatives to critical habitat designations and the provisions of the Archeological Resources Protection Plan, serve to reduce the impacts to critical habitat designations and eligible archeological sites and artifacts. In addition, range modernization
efforts may identify alternative ways to use available land and range resources.

Chapter 4 of this RCMP describes the existing plans, programs, permits, and mitigation measures that provide responsible stewardship of the natural and cultural resources entrusted to the DoD’s care within the range complex.

1.1.7 Providing Community and Stakeholder Involvement

Community and stakeholder involvement are central to sustainability. Military installations and ranges, with their military members, families, and civilian employees, are part of local, regional, and state communities. What happens on the ranges and in the communities is of mutual interest to all military and civilian stakeholders.

This RCMP fully supports this by describing the existing and proposed outreach activities as well as suggested activity and results-based outreach metrics for the NWTRC. The intent of Chapter 10 is to detail how to create and maintain stakeholder partnerships through regular, proactive dialogue and information exchange.

1.2 Updating Schedule

USFF and COMPACFLT will update appropriate sections of RCMP chapters 2, 3, 6, 7, 8, and 11 to ensure information related to changes in mission, units, technologies, range operations, and sustainability challenges is current. The update will facilitate the development of a Program Objective Memorandum on a two-year cycle.
2 NORTHWEST TRAINING RANGE COMPLEX DESCRIPTION

The Northwest Training Range Complex (NWTRC) consists of numerous individual training areas in the Pacific Northwest (Figure 2-1). The range complex includes ranges that extend westward in the Pacific Ocean (to 250 nautical miles [nm] beyond the coast of Washington, Oregon, and Northern California) and east to Idaho. The NWTRC controls Military Training Routes (MTRs) that extend as far south as the Fallon Range Complex, and Special Use Airspace (SUA) to the north that borders on Canada. Naval Seas Systems Command (NAVSEA)/Naval Undersea Warfare Center (NUWC) Keyport, WA, has four underwater range sites designed for Research, Development, Test & Evaluation (RDT&E) that are frequently used by Fleet units for training. The inventory includes Naval Special Warfare (NSW) Advanced Training Detachment Kodiak Island, AK.

2.1 MILITARY MISSION

2.1.1 Navy Operational Range Complex Mission

The mission of the Navy Operational Range Complex is to support operational training and RDT&E by maintaining and operating facilities and by providing services and material to support the Commander, U.S. Pacific Fleet (COMPACFLT), Commander, U. S. Fleet Forces (USFF), and other operating forces. The Navy Operational Range Complex includes the Offshore and Inshore Areas. The Offshore areas support multi-unit events including aircraft, surface ships and submarines. Inshore areas accommodate unit level training.

2.1.2 NAVSEA/NUWC Keyport Range Mission

The mission of the NUWC Division Keyport is to conduct test, evaluation, engineering, and maintenance for undersea warfare systems, targets, countermeasures and sonar systems including underwater unmanned vehicles (UUV). Secondly, NUWC Division Keyport is responsible for the operation of the Navy’s complex of undersea test ranges to evaluate the performance of undersea weapons systems.

2.1.3 NSW

The mission of NSW Advanced Training Detachment Kodiak is to train Sea, Air, Land special operations personnel (SEALs) how to survive and conduct missions in harsh, cold weather.
Source: NGA DAFIF & DNC and Navy doctrines and instructions.

Figure 2-1. Northwest Training Range Complex Major Areas
2.2 NORTHWEST TRAINING RANGE COMPLEX DESCRIPTION

2.2.1 Training Area Inventory and Ownership

To aid in the description of the NWTRC, the complex is divided into three major functional subdivisions. Each of the individual ranges falls into one of these three major range subdivisions:

The Northwest Training Range Complex (Figure 2-1) consists of the following areas:

- Navy Operational Range Area, which includes all air, sea, and undersea ranges west of the coastline, excluding the Quinault Range Site which is a NUWC range site; the air, land, sea, and undersea ranges inland of the coastline including Puget Sound; and Explosive Ordnance Disposal ranges, undersea and on land.
- NAVSEA/Naval Undersea Warfare Center (NUWC) Keyport range sites are the areas controlled by NUWC Keyport, primarily for RDT&E operations.
- The Naval Special Warfare, Advanced Training, Detachment Kodiak, conducts cold weather training on property leased from the USCG and on property owned by the state and Native Indian Corporations.

Further information regarding these training areas, including scheduling and controlling agencies, is presented in Figure 2-2.

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## Figure 2-2. Northwest Training Range Complex Inventory and Ownership

### 2.2.2 Regional Setting

The Northwest Training Range Complex encompasses offshore Warning Areas, surface and subsurface OPAREAs extending from the Strait of Juan de Fuca south to the 40° North latitude, near the coastline of northern California. Inshore, the range includes a land range, airspace, sea space, and undersea space from Puget Sound to the north central plain of Oregon near the Columbia River. The NUWC Keyport range sites are the only instrumented range space in the Northwest Training Range Complex. Kodiak Island in the Aleutian Chain is utilized by NSW for cold weather training. Figure 2-3 summarizes the regional setting for the Northwest Training Range Complex.

### TRAINING AREA

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<tr>
<td>NAVMAG Indian Island Underwater EOD Range</td>
<td>EODMU-11 &amp; NASWI</td>
<td></td>
</tr>
<tr>
<td>Seaplane Base Survival Area</td>
<td>NASWI</td>
<td></td>
</tr>
<tr>
<td><strong>SUA not Associated with Offshore OPAREAs, Targets or Ground Ranges</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Okanogan MOA (A,B,C)</td>
<td>NASWI</td>
<td>Seattle ARTCC</td>
</tr>
<tr>
<td>Olympic MOA (A,B)</td>
<td>NASWI</td>
<td>Seattle ARTCC</td>
</tr>
<tr>
<td>Chinook MOA (A,B)</td>
<td>NASWI</td>
<td>Seattle ARTCC</td>
</tr>
<tr>
<td>Roosevelt MOA (A,B)</td>
<td>NASWI</td>
<td>Seattle ARTCC</td>
</tr>
<tr>
<td>Darrington OPAREA</td>
<td>NASWI</td>
<td>Seattle ARTCC</td>
</tr>
<tr>
<td>Admiralty Bay Mining Range R-6701</td>
<td>NASWI</td>
<td>Seattle ARTCC</td>
</tr>
<tr>
<td>MTRs (VR-1350 to 1355; IR-341 to 344, 346, 348)</td>
<td>NASWI</td>
<td>Seattle ARTCC</td>
</tr>
<tr>
<td><strong>Surface Ranges</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Navy 7</td>
<td>CNRNW</td>
<td></td>
</tr>
<tr>
<td>Navy 3</td>
<td>CNRNW</td>
<td></td>
</tr>
<tr>
<td><strong>NAVSEA NUWC Keyport RANGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NUWC Keyport Range Site</td>
<td>NUWC Keyport</td>
<td></td>
</tr>
<tr>
<td>Dabob Bay Range Complex</td>
<td>NUWC Keyport</td>
<td></td>
</tr>
<tr>
<td>Canadian Forces Experimental Test Range (CFETR also known as Nanoose site)</td>
<td>NUWC Keyport</td>
<td>CFETR</td>
</tr>
<tr>
<td>Quinault Range Site</td>
<td>NUWC Keyport</td>
<td></td>
</tr>
<tr>
<td><strong>NSW</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSW Advanced Training Command, Kodiak Detachment</td>
<td>NSW Center and NSW Advanced Training Command, Coronado, CA</td>
<td></td>
</tr>
</tbody>
</table>

Source: 366 Report to Congress
<table>
<thead>
<tr>
<th>Feature</th>
<th>Summary</th>
</tr>
</thead>
</table>
| Training Space              | • 126,888 nm² of surface/subsurface ocean OPAREA  
• 48,438 nm² Special Use Airspace  
• 47,982 acres of training land area  
• 117,161 nm² Deep ocean areas (> 100 fathoms)  
• 9,727 nm² Shallow ocean areas (< 100 fathoms) |
| Frequent Non-Navy Users     | • Fort Lewis, US Army base near Tacoma, WA  
• McChord USAF Base near Tacoma, WA  
• Fairchild USAF Base near Tacoma, WA  
• US Coast Guard in Puget Sound  
• Washington Air National Guard  
• Oregon National Guard  
• Reserve Components of the Army, Air Force and Marine Corps  
• Civilian aerospace companies  
• Canadian Navy Ships and aircraft |
| Climate in PACNORTHWEST     | • Seasonal temperatures  
• Predominately westerly winds  
• Precipitation from 22 inches at NAS WI to over 200 inches in Olympic Mtns.  
• Severe winter storms at sea |
| Climate on Kodiak Island, AK | • Avg temp range November – April, 14° – 43°F  
• Avg temp range May – October, 30° – 56°F  
• Range of daylight hours, December 6.75, June 18.0  
• Range of precipitation, January 7.4", July 3.7" |
| Other regional range complexes | • Fort Lewis near Tacoma, WA  
• McChord SUA  
• Fallon Range Complex (550 nm southeast)  
• Yakima Training Center, WA  
• Saylor Creek, ID  
• Southeast Alaska Acoustic Measurement Facility (SEAFAC) |

Source: 366 Report to Congress

Figure 2-3. Regional Setting of the Northwest Training Range Complex

The Complex contains training media including:
• Shallow ocean areas, less than 100 fathoms  
• Deep ocean areas, greater than 100 fathoms  
• SUA over the ocean  
• SUA over land and inshore water space  
• Marine water ways extending inshore from the ocean  
• 47,982 acres (75 miles²) of land range at Naval Weapons Systems Training Facility (NWSTF) Boardman  
• Radio Frequency Spectrum

2.3 NAVY OPERATIONAL RANGE COMPLEX ORGANIZATION AND CAPABILITIES

The Operational Range Complex includes the following:
• All Special Use Airspace (SUA) in the NWTRC, Warning Areas, MOAs, Restricted Areas and an Alert Area.
Additionally, Military Training Routes and the Darrington OPAREA are included.

- The sea-space and under-sea space offshore called the Pacific Northwest Surface/Subsurface OPAREA is included and certain water space inside the Strait of Juan de Fuca, designated for Navy use, is included. Additionally, an air-to-ground target area on land in Oregon is included.
- The Explosive Ordnance Disposal training sites are included.

The attributes of these training range sites are presented in Figure 2-4.

<table>
<thead>
<tr>
<th>Range Attribute</th>
<th>Navy Operational Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operational Elements</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Airspace</strong></td>
<td></td>
</tr>
<tr>
<td>Area (offshore &amp; inshore)</td>
<td>Warning Areas: 34,453 nm² MOAs &amp; Darrington Area: 13,963 nm² Restricted Airspace: 339 nm²</td>
</tr>
<tr>
<td>Lower Limit</td>
<td>Surface</td>
</tr>
<tr>
<td>Upper Limit</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Availability</td>
<td>24/7</td>
</tr>
<tr>
<td>Supersonic Ops</td>
<td>in Warning Areas beyond 30 nm from the coast</td>
</tr>
<tr>
<td>MTRs</td>
<td>6 IFR and 6 VFR MTRs</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>126,949 nm² (includes Surface/Subsurface OPAREA: 126,888 nm²; Navy 3 is 46 nm²; Navy 7 is 15 nm²)</td>
</tr>
<tr>
<td>Availability</td>
<td>24/7</td>
</tr>
<tr>
<td>Vicinity to land</td>
<td>Not contiguous except Navy 7</td>
</tr>
<tr>
<td>Other</td>
<td>Offshore conventional ordnance as authorized by COMNAVSURFOR, COMSUBPAC and NAS Whidbey Is.</td>
</tr>
<tr>
<td><strong>Undersea Space</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>126,949 nm² (includes Surface/Subsurface OPAREA &amp; Navy 3 and Navy 7)</td>
</tr>
<tr>
<td>Availability</td>
<td>24/7</td>
</tr>
<tr>
<td>Description</td>
<td>Subsurface OPAREA is high seas area, shallow water (&lt;100 fathoms) near shore, vast majority is deep water.</td>
</tr>
<tr>
<td><strong>System of Systems</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Scheduling System</strong></td>
<td></td>
</tr>
<tr>
<td>Web-enabled database?</td>
<td>Yes for COMNAVSURFOR ships No for Airspace, scheduled manually</td>
</tr>
<tr>
<td>Pre-event module?</td>
<td>No</td>
</tr>
<tr>
<td>Real-time event module?</td>
<td>No</td>
</tr>
<tr>
<td>Post-event module?</td>
<td>No</td>
</tr>
<tr>
<td>Post-event msg generation?</td>
<td>No</td>
</tr>
<tr>
<td>Other</td>
<td>SUBPAC scheduling is manual</td>
</tr>
<tr>
<td><strong>Communications System</strong></td>
<td></td>
</tr>
<tr>
<td>Voice Circuits</td>
<td>Yes</td>
</tr>
<tr>
<td>Secure Capabilities</td>
<td>No</td>
</tr>
<tr>
<td>Data-link</td>
<td>No</td>
</tr>
<tr>
<td><strong>Weather Observing and Reporting (Met) System</strong></td>
<td></td>
</tr>
<tr>
<td>Met System</td>
<td>Limited</td>
</tr>
</tbody>
</table>
### Range Attribute Summary

<table>
<thead>
<tr>
<th>Range Attribute</th>
<th>Navy Operational Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target System</strong></td>
<td></td>
</tr>
<tr>
<td>Air Targets</td>
<td>No</td>
</tr>
<tr>
<td>Air to Ground Targets</td>
<td>NWSTF Boardman (Oregon)</td>
</tr>
<tr>
<td>Surface Targets</td>
<td>SinkEx, periodic event</td>
</tr>
<tr>
<td>Underwater Targets</td>
<td>No</td>
</tr>
<tr>
<td><strong>Instrumentation System</strong></td>
<td></td>
</tr>
<tr>
<td>Tracking System</td>
<td>Yes, 15E34B Electronic Combat Training Device for EA-6B and EP-3 aircraft in Darrington OPAREA</td>
</tr>
<tr>
<td>High Fidelity</td>
<td>Yes, 15E34B</td>
</tr>
<tr>
<td>Low Fidelity</td>
<td>Yes, 15E34B</td>
</tr>
<tr>
<td>Scoring</td>
<td>Yes, 15E34B</td>
</tr>
<tr>
<td>Debriefing</td>
<td>Yes, real time feedback and post flight debrief</td>
</tr>
<tr>
<td>Other</td>
<td>No</td>
</tr>
<tr>
<td><strong>Opposition Force (OPFOR) System</strong></td>
<td></td>
</tr>
<tr>
<td>Air OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>Surface OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>Subsurface OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>EC Threat capability</td>
<td>15E34B Electronic Training Device</td>
</tr>
</tbody>
</table>

Source: SRS Technologies

Figure 2-4. Navy Operational Range Attribute Summary

#### 2.3.1 Range Complex Organizational Relationships

##### 2.3.1.1 Budget Submitting Office

Funding varies for each individual range (see funding discussion in Chapter 9).

##### 2.3.1.2 Host

The host organizations for the Navy Operational Range Area include Naval Base Kitsap Keyport and Naval Air Station Whidbey Island (NASWI).

##### 2.3.1.3 Tenants

No tenant organizations have responsibility for the Navy Operational OPAREA or Warning Areas.

#### 2.3.2 Range Complex Management Structure

##### 2.3.2.1 Controlling Authority / Scheduling Authority

Fleet Area Control and Surveillance Facility (FACSFAC), San Diego, California is designated as the Department of the Navy (DoN) Regional Airspace Coordinator (RAC) and is the focal point and central clearinghouse for all SUA matters that pertain to any DoN Airspace related activity within their regional area of responsibility. NASWI acts as a direct airspace liaison to the RAC and is responsible for the scheduling and management of all airspace matters that pertain to the PACNORWEST OPAREA.
PACNORWEST OPAREA support joint air/surface/subsurface operations such as air-to-surface bombing, air-to-air firing, combat tactics, intercepts, aerial refueling, instrument training, aerobatics, formation flight training, and Anti-Submarine Warfare (ASW) training.

Commander, U.S. Naval Surface Forces (COMNAVSURFOR) approves all US Navy surface ships that transit and conduct training in the PACNORWEST Surface/Subsurface OPAREA. Submarines that use this area are scheduled and managed by Commander, Submarine Force, U.S. Pacific Fleet (COMSUBPAC).

Seattle Air Route Traffic Control Center (ARTCC), known as Seattle Center, is the controlling authority for W-237, W-93, and W-570, while scheduling authority for W-570 and W-93 is the USAF WADS at McChord AFB.

NASWI exercises administrative authority coordinating usage and is the scheduling authority for aircraft in the SUA. NASWI works closely with Seattle ARTCC to manage W-237, MOAs, ATCAAs, MTRs and Restricted airspace. The detachment at Naval Weapons Systems Training Facility (NWSTF) Boardman serves as a conduit to NASWI Operations for requests from other Services. NASWI publishes the schedule.

EODMU-11 and NASWI work together to schedule EOD training, including training involving demolition charges.

### 2.3.2.2 Staffing

NASWI has a small staff of one Officer and four Enlisted personnel who manage the schedules for SUA. This staff is part of the Operations Department.

NWSTF Boardman has a small detachment assigned full time on the property in Oregon: 2 Chief Petty Officers and 5 other enlisted personnel, assigned from NASWI. This detachment responds to the occasional grass fire, maintains Boardman firefighting equipment, and provides some security by their presence on the range property. The Navy personnel in the detachment at Boardman are from Construction Battalion ratings plus one Hospital Corpsman.

Twenty eight enlisted Sailors of the Aviation Boatswain Mate rating are assigned to NASWI to support special equipment for field carrier landing practice (FCLP) training operations at both NASWI and Outlying Landing Field (OLF) Coupeville, 15 miles south of NASWI. These Sailors maintain the Fresnel Lens Optical Landing System, the arresting gear, and firefighting equipment at OLF Coupeville, and occasionally serve in the tower as safety observers during FCLPs. Personnel are routinely on duty at OLF Coupeville,
Monday through Friday, depending on work assignments and scheduled aircraft activity.

Explosive Ordnance Disposal Mobile Unit Eleven (EODMU-11) has an Operations Officer, a Training Officer, and a Petty Officer that coordinate events with NASWI. The Environmental Scientist at NASWI is engaged with EOD training.

2.3.3 Range Complex Management Procedures

2.3.3.1 Control Procedures

The following section is a brief synopsis of procedures that must be followed in order to safely operate in the Navy Operational Ranges. Many of the airspace procedures are recorded in the NASWI Instruction 3770.1C and the FACSFAC San Diego Instruction 3120.1E.

2.3.3.1.1 Airspace Controlling Procedures

NASWI publishes a schedule for all users’ awareness, issues Notices to Airman (NOTAM) messages twice daily, and issues Notice to Mariners (NOTMARS) as needed. Procedural control is complied with in the Warning Areas, Military Operating Areas (MOAs) and Military Training Routes (MTRs), such that aircraft check in and check out with Seattle ARTCC on schedule. NASWI Schedules’ Staff schedules the SUA (including Darrington and MTRs) and advises Seattle ARTCC. The aircrews must file a flight plan to the entry points on the MTRs and report progress along route in accordance with Seattle ARTCC instructions. Flight crews advise Flight Service Stations of their position periodically on the routes as an advisory to civil aircraft in the area.

2.3.3.1.2 Surface and Subsurface Controlling Procedures

Navy Ships are scheduled to use water space in the PACNORWEST OPAREA by contacting COMNAVSURFFOR or utilizing the WEBSCHED system.

Submarines are scheduled to utilize underwater space in the PACNORWEST OPAREA by COMSUBPAC, and Commander Task Group (CTG) 14.9.

2.3.3.2 Range Scheduling Procedures

Users request scheduled periods of W-237 by contacting NAS Whidbey Schedules Office by DoD message or telephone, in accordance with FACSFACSD instruction 3120.1E and NAS WHIDBEY IS INSTRUCTION 3770.1C. The schedule is not web based, but NASWI distributes the schedule daily on a Local Area Network to all squadrons & wings based at NASWI.
Users request scheduled periods of W-570 and W-93 by contacting Western Air Defense Sector, McChord AFB by DoD message or telephone, in accordance with FAA publication AP/1A.

### 2.3.3.3 Range Safety Procedures

Safety precautions and regulations contained in FACSFACSD instruction 3120.1E and NAS WHIDBNEY INSTRUCTION 3770.1C apply in the PACNORWEST OPAREA and the Warning Areas.

The following general rules apply to area clearances within the PACNORWEST OPAREA:

- The operational commander conducting an exercise shall be satisfied that the range is clear prior to beginning the exercise. Procedures to ensure a clear range may be established based on visual and/or radar surveillance. The Officer Conducting the Exercise (OCE) shall take into consideration all applicable factors in arriving at the final decision, such as urgency of the mission, density of air and surface traffic, local visibility, distance offshore, type and expected reliability of the ordnance and the availability, and accuracy, reliability, and completeness of radar coverage. When surveillance of the range is conducted partially or solely by radar, surface and/or airborne, commanders shall ensure that the radar is operated and monitored by well-trained personnel. Regardless of what surveillance method is used, there must be assurance that the RANGE IS CLEAR.

- Firing exercises are permitted only within the offshore warning areas approved by Commander, Submarine Forces, U.S. Pacific Fleet (COMSUBPAC) Pearl Harbor, HI and scheduled with NASWI. Exercises must be within the area/target assigned.

- During surface gunnery exercises involving a towed target, two-way communications must be maintained between the firing unit and the towing vessel.

- No live depth charges or other live underwater ordnance shall be dropped for exercise purposes except as authorized by COMSUBPAC, Pearl Harbor, HI.

- Air-to-air (A-A) missiles may be expended within the offshore operating areas. Because of the varying characteristics of missiles used, varying safety precautions and attack methods must be followed. Each mission shall be specifically briefed and necessary safety precautions applied. No missile shall be fired when there is any possibility that it will not fall in a safe area within the assigned operating area. No missile will be fired when there exists a possibility that it may be locked on anything other than the assigned target. When head-on runs are used, both the target and firing
aircraft shall be under the positive control of a qualified Air Intercept Controller.

- Surface to Air (S-A) and Surface-to-Surface (S-S) missiles may be expended within offshore operating areas. Because of the varying characteristics of the missiles used by the Navy, varying safety precautions and attack methods must be used. Each mission or exercise shall be briefed and the necessary safety precautions applied. No missile shall be fired when there is a chance it will not fall in a safe area within the operating area.

- No ordnance shall be expended through overcast or over an undercast, or when there is more than 0.3 (30%) cloud coverage in the area, unless the criteria established in OPNAVINST 3710.7T are met.

- The Olympic Coast National Marine Sanctuary (OCNMS) was established off the coast of Washington in 1994 as part of the Marine Mammal Protection Act (MMPA). This sanctuary underlies the eastern portion of W-237A/B and includes a 5 nm buffer zone seaward. Restrictions include the following:
  o No live ordnance;
  o No bombing, live or inert;
  o Flying less than 2000 ft within one nm of the Flattery Rocks, Quillayute Needles, or Copalis National Wildlife Refuge is not allowed; and
  o Flying less than 2000 ft within one nm of the coastal boundary (Shoreline to 1 nm seaward) is not recommended.

2.3.3.4 Range Inspection Procedures

Inspection procedures apply only to NWSTF Boardman, the only land range within the NWTRC. Inspections at Boardman have not regularly occurred since the A-6 aircraft retired and range scoring systems were removed. COMPACFLT recently contracted with a civilian company to conduct Operational Range Clearance activities at Boardman. Inert bomb shapes were vented and deemed harmless by Navy EOD personnel, and a contractor removed the scrap metal.

2.3.3.5 Coordination Procedures

Military Assumes Responsibility for Separation of Aircraft (MARS) is a condition that applies to those aircraft operating within the Warning Areas. If more than one unit is scheduled to operate within a Warning Area, each unit will be briefed on the vertical and/or lateral assignments of the other units by the NAS Whidbey Island Range Schedules Division.

All operations within W-237 are subject to a Letter of Agreement (LOA) between NAS Whidbey Island, Seattle ARTCC, and Oakland ARTCC. The using and scheduling agency is NAS Whidbey Island. No military operations are permitted within these Warning Areas without prior approval.
2.3.4 NAVY OPERATIONAL Range Complex Assets

2.3.4.1 Sea Space and Associated SUA

2.3.4.1.1 Surface OPAREA and Warning Areas 237, 570 and 93

The Pacific Northwest Ocean Surface/Subsurface Operating Area (PACNORWEST OPAREA) of 126,888 nm² serves as maneuver water space for ships and submarines to conduct training and to use as transit lanes. This OPAREA extends from the Strait of Juan de Fuca to the northern coast of California (approximately 510 nm), from lying close to the shore or coast westward to 130° West longitude (approximately 240 nm). COMSUBPAC schedules and manages the subsurface water space for U.S. and allied submarines. COMNAVSURFOR schedules U.S. Navy surface ships in this OPAREA.

Navy Primary Mission Areas (PMA) supported by the Surface/Subsurface OPAREA and three Warning areas are:

- Anti-Air Warfare (AAW)
- Anti-Submarine Warfare (ASW)
- Anti-Surface Warfare (ASUW)
- Strike Warfare (STW)
- Electronic Combat (EC)
- EOD and NSW

The Special Use Airspace in the Offshore Area is comprised of three Warning areas (Figure 2-5), all within the PACNORWEST OPAREA. Figure 2-6 contains a description of these offshore areas.

W-237, extending westward from the coast of Washington State, is divided into nine areas (A-H, and J) of designated airspace. The Controlling agency for W-237 is Seattle ARTCC and the scheduling agency is NAS Whidbey Island. U.S. and Allied ships and aircraft conduct training in W-237 in Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASUW), Anti-Aircraft Warfare (AAW), Strike Warfare (STW), Electronic Attack (EA) and Command and Control Warfare (C2W).

W-570 is a smaller warning area off the central coast of Oregon. The Controlling agency is Seattle ARTCC and the scheduling agency is the Western Air Defense Sector (WADS), McChord AFB. P-3 aircraft from Commander, Patrol and Reconnaissance Wing TEN (CPRW-10) at NAS Whidbey Island occasionally use this airspace for reconnaissance training.

W-93 is located off the coast of Oregon, approximately 10 nm south of W-570 and similar in size. It has the same controlling and scheduling agencies as W-570, and is also used by CPRW-10 P-3 aircraft for reconnaissance training.
Figure 2-5. Offshore Surface OPAREA, Warning Areas, and 100 Fathom Curve
### 2.3.4.1.2 Subsurface OPAREA Undersea Space

An area of 126,888 nm²;
- Shallow littoral waters less than 100 fathoms (600 ft);
- Shallow offshore waters less than 100 fathoms (600 ft);
- Deepwater ocean areas to 2560 fathoms (15,360 ft); and
- Deepwater in the Strait of Juan de Fuca reaches 148 fathoms (888 ft).

Submarine operations in this area include unit training and transit lanes. ASW training involving aircraft and surface ships occurs in the water space under W-237.
2.3.4.1.3 Land, Interior Water Space and SUA

Navy Operational land area, underwater and associated SUA includes:

- Naval Weapons Systems Training Facility (NWSTF) Boardman;
- R-5701 and R-5706;
- Boardman MOA;
- Olympic, Okanogan, Roosevelt, Chinook MOAs;
- Darrington OPAREA;
- OLF Coupeville;
- R-6701 & Navy 7;
- Navy 3;
- Lake Hancock (estuary) target range;
- Crescent Harbor Underwater EOD Range;
- Seaplane Base EOD Demolition Training Range;
- NAVMAG Indian Island Underwater EOD Range;
- Floral Point Underwater EOD Range;
- Bangor EOD Demolition Training Range; and
- Seaplane Base Survival Area.

These range assets are inventoried in Figure 2-7, and the SUA in Figure 2-9. Theses assets are geographically presented in Figure 2-8.

Navy Primary Mission Areas (PMA) supported by the Land, Interior water space and Special Use Airspace are:

- Anti-Air Warfare (AAW)
- Mine Warfare (MIW)
- Strike Warfare (STW)
- Electronic Combat (EC)
<table>
<thead>
<tr>
<th>Range Attribute</th>
<th>Land and Inshore Water Space</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airspace</strong></td>
<td>See Figures 2-8 and 2-9</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>Total 61nm², Navy 3 (46nm²) and Navy 7 (15nm²) 0.4nm² EOD range sites combined</td>
</tr>
<tr>
<td>Availability</td>
<td>24/7</td>
</tr>
<tr>
<td>Vicinity to land</td>
<td>Navy 3 and Navy 7 are in the Strait of Juan de Fuca near Whidbey Island. EOD underwater sites are in Crescent Harbor, near Indian Island and in Hood Canal.</td>
</tr>
<tr>
<td><strong>Underwater Space</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>61 nm² Navy 3 and Navy 7 combined 0.4nm² EOD range sites combined</td>
</tr>
<tr>
<td>Availability</td>
<td>24/7</td>
</tr>
<tr>
<td>Description</td>
<td>Navy 3 and Navy 7 are small areas on NOAA charts (&lt;100 fathoms) where Navy ships conduct unit level training.</td>
</tr>
<tr>
<td><strong>Land</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>NWSTF Boardman is 47,982 acres Seaplane Base Survival Area is ~ 875 acres.</td>
</tr>
<tr>
<td>Availability</td>
<td>24/7</td>
</tr>
<tr>
<td>Location</td>
<td>Boardman is in North central Oregon near the Columbia River. Survival Area is adjacent to Crescent Harbor.</td>
</tr>
<tr>
<td><strong>Scheduling System</strong></td>
<td></td>
</tr>
<tr>
<td>Web-enabled database?</td>
<td>No. Contact NASWI Schedules by phone, email or Naval message.</td>
</tr>
<tr>
<td>Pre-event module?</td>
<td>No</td>
</tr>
<tr>
<td>Real-time event module?</td>
<td>No</td>
</tr>
<tr>
<td>Post-event module?</td>
<td>No</td>
</tr>
<tr>
<td>Post-event msg generation?</td>
<td>No</td>
</tr>
<tr>
<td><strong>Communications System</strong></td>
<td></td>
</tr>
<tr>
<td>Voice Circuits</td>
<td>Boardman yes, with Seattle ARTCC and a phone line.</td>
</tr>
<tr>
<td>Secure Capabilities</td>
<td>No</td>
</tr>
<tr>
<td>Data-link</td>
<td>No</td>
</tr>
<tr>
<td><strong>Weather Observing and Reporting (Met) System</strong></td>
<td></td>
</tr>
<tr>
<td>Met System</td>
<td>Yes, at NAS Whidbey Island</td>
</tr>
<tr>
<td><strong>Target System</strong></td>
<td></td>
</tr>
<tr>
<td>Air Targets</td>
<td>No</td>
</tr>
<tr>
<td>Air to Ground Targets</td>
<td>Boardman: Bull’s-eye with 4 concentric rings at 100/500/1000/1500 ft. Offset bull of four metal trailers. Several vehicles including a tank.</td>
</tr>
<tr>
<td>Surface Targets</td>
<td>No</td>
</tr>
<tr>
<td>Underwater Targets</td>
<td>No</td>
</tr>
<tr>
<td><strong>Instrumentation System</strong></td>
<td></td>
</tr>
<tr>
<td>Tracking System</td>
<td>No</td>
</tr>
<tr>
<td>High Fidelity</td>
<td>No</td>
</tr>
<tr>
<td>Low Fidelity</td>
<td>No</td>
</tr>
<tr>
<td>Scoring</td>
<td>No</td>
</tr>
<tr>
<td>Debriefing</td>
<td>No</td>
</tr>
<tr>
<td><strong>Opposition Force (OPFOR) System</strong></td>
<td></td>
</tr>
<tr>
<td>Air OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>Surface OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>Subsurface OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>EC Threat capability</td>
<td>No</td>
</tr>
</tbody>
</table>

Source: SRS Technologies

Figure 2-7. Land and Inshore Water Space
Figure 2-8. Land, Inshore Water Space, and SUA

Source: NGA DAFIF, Navy doctrines and instruction, ESRI, National Map, USGS.
Naval Weapons Systems Training Facility (NWSTF) Boardman is located in north-central Oregon near the Columbia River. Boardman consists of 47,982 acres of relatively flat, mostly bare landscape. The land area is predominantly rectangular, 12 by 6 miles as depicted by the blue rectangle in Figure 2-9. Several air-to-ground (A-G) targets remain in the range, although their scoring systems have been removed. R-5701 and R-5706 and Boardman MOA are located above NWSTF Boardman.

The Oregon National Guard (ORNG) frequently uses Boardman for small arms live fire training by infantry and helicopter door gunners. The ORNG is proposing to construct and operate two new live-fire weapons training ranges at Boardman. One of the ranges is a Multipurpose Machine Gun Range (MPMGR) and the other is a Multipurpose Training Range (MPTR). The MPMGR would be used to train soldiers in the use of various small arms, up to and including .50 cal rifles and machine guns. The MPTR would be used to train soldiers on foot and in vehicles in the use of various vehicle-mounted and ground-deployed weapons, including small arms of up to .50 cal, 25mm cannons, 40mm grenade launchers, TOW missiles, and 120mm tank guns. The range is also used for training helicopter gunnery crews using 5.56mm and 7.62mm machine guns.

![Special Use Airspace](image)

Source: NGA DAFIF, Navy doctrines and instruction, ESRI, National Map, USGS.

Figure 2-9. Naval Weapons Systems Training Facility (NWSTF) Boardman Airspace
The preponderance of inshore Special Use Airspace in this complex is in Washington State. It is geographically presented in Figure 2-8 and inventoried in Figure 2-10. The SUA includes four MOAs (Olympic, Okanogan, Roosevelt and Chinook) and one Restricted Areas (R-6701 over Admiralty Bay). Olympic MOAs are located over the Olympic Peninsula, along the Washington State coast. Okanogan and Roosevelt MOAs are located in north-central Washington near the US-Canadian border. The Darrington OPAREA is a block of airspace established by Letter of Agreement with Seattle ARTCC, and is used for Electronic Countermeasures training and Functional Check Flight missions by squadrons based at NAS Whidbey Island. This area is not designated a MOA, but is similarly treated. Chinook MOA is located over Admiralty Bay near the south west coast of Whidbey Island. This MOA consists of two small air corridors A and B, each 2nm wide, for aircraft to ingress and egress the Admiralty Bay Mining Range (R-6701).

Admiralty Bay includes R-6701 and the Chinook A and B MOAs. The MOAs provide approach corridors into the restricted area. OLF Coupeville is used for FCLP for EA-6Bs from NASWI, as a Parachute Drop Zone (DZ) for small units (EOD, NSW, Army SOF, etc.), and as a Landing Zone (LZ) for helicopter operations including heavy lift sling loads. An alert area (A-680) provides a 3-mile radius area around the OLF.

Figure 2-11 depicts the range areas on and around central Whidbey Island, including Admiralty Bay, R-6701 (Navy 7), Chinook MOAs, Navy 3, and OLF Coupeville. Navy OLF Coupeville is located 9 nm south of Ault Field, NAS Whidbey Island, on the same island. OLF Coupeville consists of a 5,400-foot runway, a portable Fresnel Lens Optical Landing System, arresting gear and firefighting equipment, and an observation tower. OLF Coupeville is used primarily for FCLP operations and military parachute operations. Besides providing a runway for FCLPs, OLF Coupeville includes 664 acres of undeveloped open space and agricultural out-leases. Other military training operations conducted at OLF Coupeville include helicopter training, parachuting, and ground training. Alert Area 680 is assigned to OLF Coupeville to inform non-participating pilots that a high volume of pilot training and parachute operations are conducted in the Area.

Admiralty Bay Mining Range/R-6701, is an over-water aerial mining area that extends from the surface up to 5000ft MSL. The surface exercise area beneath R-6701 (Navy 7) is located approximately 13 nm south of Ault Field, NAS Whidbey Island, on the west side of Whidbey Island. Chinook MOA consists of two small corridors that provide an ingress and exit route for aircraft using Admiralty Bay Mining Range. The restricted airspace (R-6701) over Admiralty Bay and Lake Hancock is used for Unmanned Aerial Vehicle (UAV) operations. Navy 7 is the surface area for Navy ships to conduct unit training in Admiralty Bay.
## Inshore SUA

<table>
<thead>
<tr>
<th>Inshore SUA</th>
<th>nm²</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>Availability</th>
<th>Scheduling Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-680 (OLF Coupeville)</td>
<td>28</td>
<td>Surface</td>
<td>3,000 ft MSL</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Admiralty Bay Mining Range R-6701 (over Navy 7)</td>
<td>22</td>
<td>Surface</td>
<td>5,000 ft MSL</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Chinook MOA (A,B) SUA corridors for R-6701</td>
<td>A: 23 B: 33</td>
<td>300ft MSL</td>
<td>5,000ft MSL</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Olympic MOA (A,B)</td>
<td>A: 933 B: 708</td>
<td>6000ft MSL</td>
<td>FL180</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Olympic ATCAA</td>
<td></td>
<td>FL180</td>
<td>FL500</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Darrington OPAREA</td>
<td>2,126</td>
<td>10,000ft MSL</td>
<td>FL230, higher alt avail on request</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Okanogan MOA (A,B,C)</td>
<td>A:2639 B: 973 C: 752</td>
<td>A: 9000ft MSL</td>
<td>A: FL180</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Okanogan ATCAA</td>
<td></td>
<td>FL180</td>
<td>FL500</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Roosevelt MOA (A,B)</td>
<td>A:3192 B:2221</td>
<td>A: 9000ft MSL</td>
<td>A: FL180</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Roosevelt ATCAA</td>
<td></td>
<td>FL180</td>
<td>FL500</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Boardman MOA</td>
<td>363</td>
<td>4,000ft MSL</td>
<td>17,000ft MSL</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>Boardman ATCAA</td>
<td></td>
<td>FL180</td>
<td>FL200</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>R-5706</td>
<td>108*</td>
<td>3,500 ft</td>
<td>10,000 ft MSL</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>R-5701 A</td>
<td>79*</td>
<td>SFC</td>
<td>FL200</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>R-5701 B</td>
<td>11*</td>
<td>SFC</td>
<td>10,000 ft MSL</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>R-5701 C</td>
<td>32*</td>
<td>SFC</td>
<td>6,000 ft MSL</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>R-5701 D</td>
<td>22*</td>
<td>SFC</td>
<td>10,000 ft MSL</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td>R-5701 E</td>
<td>65*</td>
<td>SFC</td>
<td>6,000 ft MSL</td>
<td>24/7</td>
<td>NASWI</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>14,013</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Lies beneath Boardman MOA, not counted in Total.

Source: 366 Report to Congress, DoD Flight Information Publication AP-1A – Special Use Airspace

#### Figure 2-10. Inshore Special Use Airspace

Lake Hancock (estuary) target range is considered closed for impact operations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), but still used for UAV training. It is located on Whidbey Island adjacent to Admiralty Bay. The target range was utilized as early as 1943 and as late as 1971, for air-to-ground training with practice rockets and bombs.

Navy 3 is a polygon of water space used by Navy ships for unit level training. It is 46 nm² in area, located 8 nm west of Ault Field, NASWI, in the Strait of Juan de Fuca. It is used for unmanned underwater vehicles (UUV) and mine warfare (MIW) RDT&E.
Figure 2-11. Admiralty Bay, Navy 7, and Navy 3

Six small sites, depicted in Figure 2-12, support Explosive Ordnance Disposal Mobile Unit Eleven (EODMU-11), stationed at NAS Whidbey Island (Seaplane Base area). These sites are:

- Crescent Harbor Underwater EOD Range,
- Seaplane Base EOD Demolition Training Range (DTR),
- NAVMAG Indian Island Underwater EOD Range,
- Floral Point EOD Underwater EOD Range,
- Bangor EOD Demolition Training Range, and
- Seaplane Base Survival Area.

The DTR sites are small areas on land, fortified with walls made of earth and lumber, to contain expendable materials from demolition charges. The training detonations are limited to 5 lb Net Explosive Weight (NEW) by EODMU-11 to avoid complaints about explosion noise. The underwater sites are used for swimmer training in Mine Countermeasures. Charges at the site near Indian Island and at Crescent Harbor are authorized up to 20 lb NEW, but limited by EODMU-11 to 2.5 lb NEW. EODMU-11 limits underwater charge size to avoid complaints concerning harm to fish. The EOD site near
Figure 2-12. EOD Training Range Sites

Source: NGA DNC, Navy, Kitsap County GIS Dept, ESRI, National Map, USGS
Indian Island is within or in close proximity to a U.S. Navy restricted area.

Floral Point Underwater EOD Range is within a Navy restricted area in Hood Canal. Underwater detonations at Floral Point are smaller, usually less than 1 lb NEW. The Floral Point site is in 30 ft of water and includes a metal frame embedded in the canal bottom. Charges are attached to the frame at 3 to 8 ft above the bottom.

Seaplane Base Survival Area is approximately 875 acres of undeveloped Navy property, located adjacent to Crescent Harbor. It is used by small units (2000 personnel or less) for ground training, tactical maneuver, land navigation, survival training, helicopter operations on multiple landing zones (unimproved), boat landing operations such as a raid, and a parachute drop zone (Survival DZ). EODMU-11 conducts paradrop training in the drop zones in Crescent Harbor, the Survival Area, and at OLF Coupeville. NASWI search and rescue (SAR) helicopter crews practice confined area landings in this area. Authorized ordnance includes blank small arms ammo and inert grenades; some pyrotechnics (signal smoke and flares etc.) may be authorized depending on fire danger level. A communications land line (phone) is in place and can be activated when requested.

2.3.4.1.4 Other SUA, Military Training Routes

Twelve Military Training Routes (MTRs) provide low level training with allowed speeds of over 250 knots on segments as low as 200 feet above ground level (AGL). Six of the MTRs are Visual Routes (VRs) and six are Instrument Routes (IRs). IR low-levels require an instrument flight rules (IFR) flight plan, regardless of weather conditions, and have a floor of 500 ft. VR routes have a 200-ft. floor, can only be flown in visual meteorological conditions (VMC), and do not require an IFR flight plan. All of these MTRs are available on a continuous basis. They are 8 nm wide (4 nm either side of track) and are flown in one direction only. Several terminate at the Boardman MOA/target area. The Whidbey Island MTRs are visually presented in Figure 2-13 and summarized in Figure 2-14.
Figure 2-13. MTRs in the Northwest Training Range Complex
<table>
<thead>
<tr>
<th>MTR</th>
<th>Point of Origin</th>
<th>No. of Segments</th>
<th>Total length of MTR (nm)</th>
<th>Termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR-341</td>
<td>Yakima VORTAC, WA</td>
<td>8 (A – I)</td>
<td>292</td>
<td>25 nm north of Ephrata, WA</td>
</tr>
<tr>
<td>IR-342</td>
<td>Kimberly VORTAC, OR</td>
<td>9 (A – J)</td>
<td>329</td>
<td>Boardman</td>
</tr>
<tr>
<td>IR-343</td>
<td>Yakima VORTAC, WA</td>
<td>15 (A - P)</td>
<td>471</td>
<td>Same as IR-341</td>
</tr>
<tr>
<td>IR-344</td>
<td>Hoquiam VORTAC, WA</td>
<td>16 (A - M)</td>
<td>321</td>
<td>Boardman</td>
</tr>
<tr>
<td>IR-346</td>
<td>Newport VORTAC, OR</td>
<td>13</td>
<td>333</td>
<td>Boardman</td>
</tr>
<tr>
<td>IR-348</td>
<td>NAS Whidbey VORTAC, 058 radial at 24 nm</td>
<td>10 (A - K)</td>
<td>296</td>
<td>Deer Lake, 25 nm north of Spokane, WA</td>
</tr>
<tr>
<td>VR-1350</td>
<td>same as IR-348</td>
<td>10 (A - K)</td>
<td>261</td>
<td>Boardman</td>
</tr>
<tr>
<td>VR-1351</td>
<td>same as IR-348</td>
<td>13 (A - M)</td>
<td>372</td>
<td>Boardman</td>
</tr>
<tr>
<td>VR-1352</td>
<td>Kimberly VORTAC, 010 radial at 7 nm</td>
<td>6 (A – G)</td>
<td>315</td>
<td>Fallon Range Complex</td>
</tr>
<tr>
<td>VR-1353</td>
<td>80 nm north of Fallon, NV</td>
<td>7 (A – E)</td>
<td>309</td>
<td>Boardman</td>
</tr>
<tr>
<td>VR-1354</td>
<td>Boardman</td>
<td>5 (A – F)</td>
<td>129</td>
<td>35 nm south of Spokane, WA</td>
</tr>
<tr>
<td>VR-1355</td>
<td>Boardman</td>
<td>7(A – G)</td>
<td>222</td>
<td>15 nm east of NASWI</td>
</tr>
</tbody>
</table>

Source: DoD Flight Information Publication AP/1B – Military Training Routes

**Figure 2-14. Military Training Route Summary**

### 2.3.4.2 Scheduling

The PACNORWEST OPAREA is used by Navy ships and submarines primarily as transit routes and to conduct training. Its use is not exclusive. COMNAVSURFOR schedules Navy surface ships to transit through it by intranet Website scheduling (WEBSCHED), naval message, and voice circuits via satellite. COMSUBPAC, CTG 14.9 is the scheduling authority for subsurface water space, and communicates with US Submarines by naval message and voice circuits. The airspace in the three Warning Areas (W-237, W-570 and W-93) is scheduled, while the remaining airspace over the PACNW OPAREA is not scheduled. Only WADS and the FAA track aircraft west of the coastline. FACSFAC does not have radar coverage in these Warning Areas.

NAS Whidbey Operations personnel manage the schedule process for aircraft in the MOAs, Restricted Airspace, Boardman Range, and the MTRs. EODMU-11 coordinates EOD range use at Crescent Harbor and Seaplane Base EOD Demolition Training Range with NAS Whidbey Island. Specific scheduling information is provided in Figure 2-15.

### 2.3.4.3 Communications

All units in the PACNORWEST OPAREA and in the Warning Areas, MOAs, Restricted Airspace, Darrington, and the MTRs are required to have two way voice communications.
2.3.4.4 Meteorology

Surface weather buoys, moored off the coast of Washington and Oregon (some in W-237), provide observed surface weather information in some areas in W-237, recorded for access by mariners. National Data Buoy Center (NDBC), a part of the National Weather Service (NWS), provides mariners an easy way to obtain the reports via a cell phone. Buoy information includes wind, air, and sea surface temperature and wave measurements taken within the last hour. The information can be viewed at the NDBC.
website at: [http://www.ndbc.noaa.gov/dial.shtm](http://www.ndbc.noaa.gov/dial.shtm). Ships and aircraft in the area can observe actual weather conditions including cloud cover, wind, and barometric pressure.

In the in-shore area, Automated Surface Observing System (ASOS) provides a recording of current weather and airfield information for civil and military aircraft. ASOS, installed at NWSTF Boardman, has replaced the old ATIS system. No other range in the inshore area has organic or remote weather observation systems.

### 2.3.4.5 Targets and Target Arrays

No target system exists in the offshore PACNORWEST OPAREA. Periodically, in three or four year intervals, a SINKEX is conducted in the offshore OPAREA.

In July 2005, two decommissioned Navy ships were designated target hulks for a SINKEX in the ocean water under W-237. Several US Navy and Air Force aircraft, one Navy ship, and one Submarine were designated as participants to release live ordnance on the SINKEX target ships. According to the Overseas Environmental Assessment, the site was 130 nm west of Washington State, in compliance with environmental regulations, and met the operational suitability of the Navy. Both targets were successfully sunk in water over 1000 fathoms deep. A significant amount of training was accomplished with live ordnance for proficiency.

NWSTF Boardman is a land range surrounded by R-5701/5706 and Boardman MOA. Boardman has several land targets for aircraft to use in air-to-ground delivery. The main bull’s eye has four concentric rings around the center, spaced at 100, 500, 1000 and 1500 feet. There are also several tactical targets consisting of vehicle hulks.

### 2.3.4.6 Instrumentation (including SESEF)

No fixed instrumentation exists in the PACNORWEST OPAREA or Warning Areas. WADS radars provide coverage of this area but their radar information is classified. FAA traffic control radars have a limited capability beyond the coast.

One 15E34B Electronic Combat (EC) Training Device is located at OLF Coupeville and used by aircraft operating in the Darrington OPAREA.

A Shipboard Electronic Systems Evaluation Facility (SESEF) is located at Ediz Hook in Port Angeles, WA, on the south side of the Strait of Juan de Fuca. In addition to at-sea testing, directional antennas provide line-of-sight support for pier-side testing for all naval and shipyard facilities in the PACNORWEST area. This SESEF is operated by Naval Undersea Warfare Center (NUWC) Division, Keyport, WA.
The SESEF is located at 48°08'24"N / 123°24'12"W
SESEF Navy Orbit Area is located at 48°15'36"N/123°15'48"W approximately 10 nm into the Strait of Juan de Fuca from the SESEF facility at Ediz Hook.

SESEF provides testing and analysis of shipboard and shore based electromagnetic systems such as navigation, communications, radars, and ESM for accuracy and readiness. No ordnance is utilized.

2.3.4.6.1 Tracking

The 15E34B EC Training Device has a tracking capability for aircraft training in electronic combat in Darrington OPAREA. The 15E34B tracks the aircraft IFF mode(s) 1, 2 or 3 and must also have mode "C" for altitude data. This received data, range, bearing and altitude which is accurate to +/- one degree is then converted to the azimuth and elevation angles required to position the main Andrews tracking array which points to the aircraft receiving training.

2.3.4.6.2 Exercise and Coordination (EC&C)

There is no dedicated exercise control and coordination system.

2.3.4.6.3 Modeling and Simulation (M&S)

Modeling and simulation (M&S) is used to augment live training during the Fleet Readiness Program (FRP) training cycle. Although not a substitute for underway, at-sea operations, in-port and synthetic training is essential to combat readiness and is performed often throughout the Fleet Readiness Training Plan (FRTP). The Virtual At-Sea Training Deployable Prototype/Integrated Maritime Portable Acoustic Scoring and Simulator (VAST DP/IMPASS) system allows synthetic (virtual) targets for FIREXs to be overlain an instrumented buoy field. Additionally TACTS facilitates NDWS by participating aircraft.

In-port Training. In-port Training is conducted aboard ships and submarines with organic training devices and installed equipment such as the Battle Force Tactical Trainer (BFTT) and similar training systems. Individual and multi-unit in-port tactical training using both onboard training systems and shore support training systems is essential to training progression, in particular during the early stages of the FRTP (basic phase). Full, multi-warfare synthetic exercises are implemented via the Battle Group In-port Exercise (BGIE) program. BGIE is a process designed to provide graduated proficiency training exercises, combining a set of mandatory events with opportunities to conduct optional training based on senior leadership assessments. BGIE exercises start during the basic phase of the FRTP and become progressively more complex and challenging. When properly supported with modeling and simulation, the BGIE can maximize effectiveness of underway

2-28
training days (for the Unit, Warfare Commander and/or Carrier Strike Group [CSG] staff) and reduce the requirement to await CSG platform availability. By incorporating this regimen of training, CSG staff proficiency is increased and Commanders are more fully prepared when actual underway operations are conducted. This training permits certification of CSGs and Expeditionary Strike Groups (ESGs) earlier in the FRTP.

**Synthetic Training.** Viable synthetic training systems are still in development in order to augment and enhance Fleet training. Systems that are currently available are usually associated with the Joint environment and focus on the higher headquarters, senior battle staff training audience. In all cases, modeling and simulation benefits Fleet training by reducing costly underway steaming dollars and permitting Naval units and personnel to participate in training from in-port locations without the need for range scheduling and/or operating areas.

**Virtual At-Sea Training (VAST).** VAST is an example of both an M&S system and a scoring system. With VAST, live fire is used, but the target is simulated. A surface ship gun-firing operation in support of operations on land is called a FIREX. With VAST, the Navy is able to conduct FIREXs for Naval Surface Fire Support (NSFS) training in the open ocean instead of using a real land target. VAST is a portable and reusable system comprised of an array of five (5) free-floating sonobuoys (passive listening devices) that are deployed approximately in the shape of a pentagon. This area is known as the buoy field. The sonobuoys serve as collectors of acoustic information and “score” the impact of shells aimed at a virtual target within the buoy field. The ship’s crew or a “spotter” sees a realistic presentation (e.g., a landmass with the topography of a “real world” target), which corresponds to an area actually located over the open ocean. The operator fires at the combat simulation target, while the ordnance actually lands within a buoy field in the water. Exercise evaluators monitor the target practice on a computer screen.

The 15E34B EC Training Device models many different emitters to train aircrews on procedures of Electronic Combat, while they are airborne in the Darrington OPAREA.

Currently no scoring systems exist for weapons events, inert or live. NWSTF Boardman and Admiralty Bay Mining Range both had a Weapons Impact Scoring System (WISS) in the past and they have been deleted from both sites.

The 15E34B EC Training Device provides real time and post event debrief. This is the only debriefing system in the Navy Operational Ranges.
2.3.4.7 Opposition Forces

The 15E34B EC Training Device operates as an Opposition Force for aircraft training in electronic combat in Darrington OPAREA.

2.3.4.8 Other Infrastructure

Improved property at NWSTF Boardman consists of 3 metal buildings, an office-trailer, a telephone, fresh water, and electrical power and dirt roads.

2.4 NAVSEA / NUWC KEYPORT

The Naval Undersea Warfare Center Division, Keyport is located at Keyport, Washington, in the Puget Sound. The main facility at NUWC Keyport occupies approximately 340 acres, including tidelands, on a small peninsula at the entrance to Liberty Bay. NUWC Keyport operates the Pacific Northwest Range Complex, which consists of four fixed, undersea, tracking ranges. These include:

- Dabob Bay Range Complex (DBRC), includes Hood Canal;
- Canadian Forces Maritime Experimental Test Range (CFMETR) also known as the “Nanoose” range, is a joint US and Canadian venture for a range located near Vancouver, British Columbia, Canada;
- Quinault Range Site, located 8 miles off the western coast of Washington; and
- NUWC Keyport range site, located immediately south of NUWC Keyport Headquarters, utilizes an underwater portable tracking system called the “SWIFT” portable range, in the non-instrumented areas of the ranges when customer requirements dictate.

These ranges are inventoried in Figure 2-16, and geographically depicted in Figure 2-17. They provide a total of 134 nm² of underwater tracking area, which is used to support various missions including undersea vehicle production acceptance, RDT&E, and Fleet training.

The SWIFT portable range is depicted in Figures 2-18 and 2-19 and can be configured to provide up to 80 nm² of underwater tracking area in water depths ranging from 1 foot to 6000 feet. The SWIFT range is used in the non-instrumented areas of the DBRC, and open ocean where threat realistic test environments support System RDT&E requirements. Figure 2-18 depicts a typical test or training event that uses time-stamped signals from a Pinger affixed to the items of interest for precision 3-Dimensional tracking. Incorporation of Acoustic Modem technology into the SWIFT buoy’s enables a non-invasive (no pingers) tracking capability along with message eavesdropping, decoding and transmission. This is extremely useful for small vehicles that do not have the space or power density to
accommodate standard Pingers, such as Unmanned Undersea Vehicles (UUV’s).

The missions of NUWC Division Keyport include:

- Test and evaluation; in-service engineering, maintenance and repair; and Fleet readiness and industrial-base support for undersea warfare systems, mobile targets, countermeasures and sonar systems.
- Operation of the Navy’s complex of undersea test ranges to evaluate the performance of undersea weapon systems and vehicles against their given specifications.
<table>
<thead>
<tr>
<th>Range Attribute</th>
<th>NAVSEA / NUWC Keyport Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airspace</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>None</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>134 nm² combined range area (fixed ranges). SWIFT has up to 80nm² instrumented area deployable world wide.</td>
</tr>
<tr>
<td>Availability</td>
<td>As scheduled with NUWC Keyport</td>
</tr>
<tr>
<td>Vicinity to land</td>
<td>Inshore waterways (fixed ranges). SWIFT can operate in open ocean to littorals.</td>
</tr>
<tr>
<td>Other</td>
<td>3 of 4 range sites are in inshore waterways; Quinault Range Site is offshore the Olympic Peninsula.</td>
</tr>
<tr>
<td><strong>Underwater Space</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>134 nm²</td>
</tr>
<tr>
<td>Availability</td>
<td>Scheduled availability is 0700 – 1700 Tuesday – Friday. Some events run longer. Events for SSBN Post Trial Refit on DBRC take priority and occur as necessary.</td>
</tr>
<tr>
<td>Description</td>
<td>Small, inland range sites designed for RDT&amp;E</td>
</tr>
<tr>
<td><strong>Scheduling System</strong></td>
<td></td>
</tr>
<tr>
<td>Web-enabled database?</td>
<td>No</td>
</tr>
<tr>
<td>Pre-event module?</td>
<td>Yes</td>
</tr>
<tr>
<td>Real-time event module</td>
<td>Yes</td>
</tr>
<tr>
<td>Post-event module?</td>
<td>Yes</td>
</tr>
<tr>
<td>Post-event msg generation?</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Communications System</strong></td>
<td></td>
</tr>
<tr>
<td>Voice Circuits</td>
<td>Yes</td>
</tr>
<tr>
<td>Secure Capabilities</td>
<td>Yes</td>
</tr>
<tr>
<td>Data-link</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Weather Observing and Reporting (Met) System</strong></td>
<td></td>
</tr>
<tr>
<td>Met System</td>
<td>Limited to basic atmospheric &amp; u/w bathometric sensors.</td>
</tr>
<tr>
<td><strong>Target System</strong></td>
<td></td>
</tr>
<tr>
<td>Air Targets</td>
<td>No</td>
</tr>
<tr>
<td>Air to Ground Targets</td>
<td>No</td>
</tr>
<tr>
<td>Surface Targets</td>
<td>No</td>
</tr>
<tr>
<td>Underwater Targets</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Instrumentation System</strong></td>
<td></td>
</tr>
<tr>
<td>Tracking System</td>
<td>Yes, details in tables to follow</td>
</tr>
<tr>
<td>High Fidelity</td>
<td>Yes, details in tables to follow</td>
</tr>
<tr>
<td>Low Fidelity</td>
<td>Yes, details in tables to follow</td>
</tr>
<tr>
<td>Scoring</td>
<td>Yes, details in tables to follow</td>
</tr>
<tr>
<td>Debriefing</td>
<td>Yes, details in tables to follow</td>
</tr>
<tr>
<td>Other</td>
<td>Significant underwater instrumentation</td>
</tr>
<tr>
<td><strong>Opposition Force (OPFOR) System</strong></td>
<td></td>
</tr>
<tr>
<td>Air OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>Surface OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>Subsurface OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>EC Threat capability</td>
<td>No</td>
</tr>
</tbody>
</table>

Source: NUWC Keyport

Figure 2-16. NAVSEA / NUWC Keyport Attributes
Figure 2-17. NAVSEA / NUWC Keyport Range Sites

Source: NGA DAFIF, Navy, ESRI, National Map, USGS.
Figure 2-18. SWIFT Portable Range (typical with Pingers)

- SWIFT Portable Range provides traditional tracking with standard Fleet Pingers
- Portable Range augmented to also receive and detect Acoustic Modem emissions to provide a Non-Invasive Track and Message Eavesdropping capability
- Secure digital data link to Tracking Computer
- Tracking Computer linked to Collaborative T&E Center (CTEC)

Figure 2-19. SWIFT Portable Range (Non-Invasive Tracking, no Pingers)
2.4.1 Range Complex Organizational Relationships

NUWC Division Keyport, WA reports to NUWC Headquarters, Newport, Rhode Island, who reports to Naval Sea Systems Command (NAVSEA) Washington, D.C. NAVSEA directs the development and construction of systems and hulls for ships and submarines in the U.S. Navy. The Canadian underwater range “CFMETR” (also known as Nanoose) is a joint venture between the U.S. and Canada managed by a formal agreement between the governments. Canada provides the real estate and infrastructure and the U.S. provides personnel to operate the computer facility, range support craft, and range technology including underwater tracking arrays and computers.

Organizations Supported by NUWC Keyport include:
- Naval Sea Systems Command (NAVSEA)
- Naval Air Systems Command (NAVAIR)
- Navy Acquisition Program and technology sponsors for weapons, submarines and sonar designs
- Office of Naval Research
- Office of Naval Intelligence
- Defense Advanced Research Projects Agency
- COMPACFLT
- Commander Patrol Reconnaissance Wing Ten (CPRW-10)
- Commander Submarine Group Nine (COMSUBGRU-9)
- Development Squadron Five
- NSW, U.S. Air Force, U.S. Army, SOF
- Canadian Forces
- United Kingdom Research
- Foreign Military Sales
- Private and academic research

2.4.1.1 Budget Submitting Office

Funding for NUWC comes from NAVSEASYSCOM and NAVAIRSYSCOM.

2.4.1.2 Host

The host is Naval Base Kitsap Keyport, WA.

2.4.1.3 Tenants

NUWC is a tenant aboard Naval Base Kitsap Keyport.

2.4.2 Range Management Structure

NUWC Keyport supports the operational Navy as well as conducting RDT&E work tasked by NAVSEA. Range management is provided by NUWC Keyport with assistance for the Nanoose range provided by the Canadian Forces Maritime Experimental and Test Range (CFMETR) located in British Columbia. All items for the CFMETR
range, including sustainability issues, are controlled by a Joint U.S. and Canadian agreement through the State Department.

2.4.2.1 Controlling Authority

NUWC Keyport is the controlling authority for the U.S. range sites. The Commanding Officer, CFMETR is the controlling authority for Nanoose site.

2.4.2.2 Scheduling Authority

NUWC Keyport is the scheduling authority for all range sites.

2.4.2.3 Staffing

NUWC Keyport Range Operations staff consists of 1,497 civilians and 34 military personnel.

2.4.3 Range Complex Management Procedures

2.4.3.1 Range Control Procedures

NUWC Keyport maintains centralized range control for all exercises including air-surface/subsurface operations. Figure 2-20 describes the range information display capabilities used in controlling and maintaining safety during range operations at DBRC, CFMETR, and Quinault.

<table>
<thead>
<tr>
<th>NUWC Division Keyport, Collaborative T&amp;E Center (CTEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range sites supported</td>
</tr>
<tr>
<td>Viewing Room Capacity</td>
</tr>
<tr>
<td>Reconfigurable Rooms</td>
</tr>
<tr>
<td>Simultaneous Ops</td>
</tr>
<tr>
<td>Screens</td>
</tr>
<tr>
<td>Communications</td>
</tr>
<tr>
<td>Technologies</td>
</tr>
<tr>
<td>Data sources</td>
</tr>
<tr>
<td>Future plans</td>
</tr>
</tbody>
</table>

Source: NUWC Keyport, Northwest Range User’s Guide

Figure 2-20. NUWC Keyport Command and Control Systems

2.4.3.2 Range Scheduling Procedures

To schedule a range or services, the Test Operations managers at NUWC Keyport are contacted:

- Telephone: Comm (360) 396-4261, DSN 744-4261.
2.4.3.3 Range Safety Procedures

Range safety procedures coordinate the efforts of on-site observers, underwater hydrophones, targets and testing platforms to prevent harm to marine mammals and damage to hardware.

2.4.3.4 Range Inspection Procedures

All participating vehicles, vessels and weapons are retrieved after operations are completed on any NUWC Keyport range. Weapons are inert; the expendable materials left behind are the shielded copper wire from a torpedo, lead weights for buoyancy, and some small parachutes (range inspection procedures recover the test devices). The participants keep a vigil for marine mammals and non-participating boats.

2.4.3.5 Coordination Procedures

The NUWC Keyport Facility coordinates events on all range sites.

2.4.4 NUWC Keyport Range Assets

2.4.4.1 Underwater Space and Associated Surface Area

NUWC Keyport provides a full spectrum capability for the measurement and analysis of underwater radiated noise, structure borne noise, self-noise, and ambient noise in support of range operations. They include features for high speed and ultra quiet vehicle measurements. DBRC, CFMETR, and Quinault Range sites are fully instrumented for acoustic measurement and monitoring with data processing and analysis performed at NUWC Keyport’s Underwater Noise Analysis Facility. Technologies supported include:

- Underwater vehicle propulsion
- Underwater acoustics
- Underwater vehicle dynamics
- Sonar development
- Radiated noise measurement
- Underwater tracking
- Underwater acoustic measurement

2.4.4.1.1 Sea Space / SUA

The surface of the water serves as the vertical limit of the underwater range sites and enables surface ships access to DBRC, CFMETR Range Site, Quinault Range Site, and Keyport Range Site. DBRC is accessible by some Navy combatant ships, Cruisers, Destroyers, and Frigates, but not by large ships like Aircraft Carriers due to a sliding bridge over Hood Canal. The sea surface is monitored by NUWC
Keyport staff and sensors including lights for tracking surface vehicles, orcas, and range transients.

2.4.4.1.2 Undersea Space

NUWC Keyport range sites have extensive underwater and above water tracking capability allowing users to observe exercises in real time and record events for post exercise evaluation/scoring. Collectively, the DBRC site, Quinault Range Site, and CFMETR site provide 134 nm² of instrumented undersea space. An overview of the capabilities at the three fixed and one portable site includes:

- Underwater acoustic tracking pingers on vehicles (targets, torpedoes, submarines)
- Sensors to receive pinger signals for telemetry
- Undersea cabling to transmit telemetry signals to range center
- Tracking center facilities to receive, decode, and display tracking vehicles/weapons at the Collaborative T & E Center (CTEC), Keyport
- Portable range that can exploit systems under test for non-invasive tracking and acoustic modem message eavesdropping with reachback to CTEC via secure wireless communications
- Support craft, helos, airplanes, boats to launch & retrieve vehicles and weapons
- Above water tracking systems correlate aircraft participation on range

Keyport Range Site. The Keyport Range site is adjacent to the NUWC Keyport main facility. This 1.5 nm² site is used to test underwater vehicles in shallow water. This site's maximum depth is 60 feet and contains no permanent instrumentation. When instrumentation is needed the portable Shallow Water Inexpensive Flexible Tracking (SWIFT) system is deployed. The range is used for tracking technology development, acoustic recording development, SEAL Team cold water training, and unmanned underwater vehicle testing. NUWC Keyport has been designated the National Unmanned Undersea Vehicle Test and Evaluation Center (NUTEC) and uses the Keyport Site and the DBRC Site for the AUV Fest 2005. Specifications are depicted in Figure 2-21.

Dabob Bay Range Complex (DBRC) Site. The DBRC Site consists of Dabob Bay Military Operating Area, the Hood Canal Military Operating Areas, and the connecting waters. DBRC provides a medium depth, quiet secure body of water for testing. Water depth reaches 600 feet with an underwater tracking area of 9 nm². The size of the DBRC is 30.9 nm². Primary operations are to provide production acceptance tests of underwater systems such as torpedoes, countermeasures, targets, R&D test support, Sea Trial evaluations for SSBNs, and SEAL Team cold water training. Specifications are depicted in Figure 2-22.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>SWIFT Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underwater Tracking Area</td>
<td>Max 80 Km² with 20 sensors @ 2Km sensor spacing</td>
</tr>
<tr>
<td>Simultaneous Acoustic Tracks</td>
<td>Up to 12 vehicles (instrumented), 100 vehicles (non-instrumented but with organic acoustic modem)</td>
</tr>
<tr>
<td>Track Update rate</td>
<td>3 vehicles per second (maximum)</td>
</tr>
<tr>
<td>Tracking Frequency band</td>
<td>33.149-38.217kHz (low band), 41.096-45.802kHz (mid band), and 48.387-49.587kHz (high band) for instrumented pingers. For the acoustic modem, the center frequency is 22.5 ±2.5 kHz.</td>
</tr>
<tr>
<td>Tracking Signal Format</td>
<td>Spaced Frequency Shift Keyed (SFSK)</td>
</tr>
<tr>
<td>Depth Resolution</td>
<td>0.3 meter, using depth telemetry</td>
</tr>
<tr>
<td>Tracking Accuracy (XY) nominal</td>
<td>5 meters, typical, within Multipath-free region</td>
</tr>
<tr>
<td>Installation Depth</td>
<td>5 to 400 meters</td>
</tr>
<tr>
<td>Deployment / Recovery time</td>
<td>Less than 1 day, typical</td>
</tr>
<tr>
<td>Usage per Battery charge</td>
<td>100 hours, minimum</td>
</tr>
<tr>
<td>Stand-by Time between uses</td>
<td>1000 hours max (sleep mode)</td>
</tr>
<tr>
<td>Power augmentation</td>
<td>Additional batteries can be added to the sensors via a Buddy-bouy. Adds 150 hours to usage time. Add additional 1500 hours to stand-by time.</td>
</tr>
<tr>
<td>Radio Link Reception Range</td>
<td>Digital line of sight, approx. 11 Km, minimum (ship receiver)</td>
</tr>
</tbody>
</table>

Source: NUWC Keyport

**Figure 2-21. Keyport SWIFT System Capabilities**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DBRC Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range size (subsurface)</td>
<td>30.9 nm²</td>
</tr>
<tr>
<td>Depth</td>
<td>120 to 600 ft.</td>
</tr>
<tr>
<td>Above Water Tracking coverage</td>
<td>450 nm²</td>
</tr>
<tr>
<td>Unique features</td>
<td>Quiet and Highly Secure</td>
</tr>
<tr>
<td># Arrays &amp; Separation</td>
<td>7 tracking arrays; 6000 ft separation</td>
</tr>
<tr>
<td>Underwater track</td>
<td>75 kHz PSK</td>
</tr>
<tr>
<td># Simultaneous tracks</td>
<td>12 vehicles or items</td>
</tr>
<tr>
<td>Real Time Telemetry</td>
<td>24 bits/ping</td>
</tr>
<tr>
<td>Above water Track</td>
<td>Surveillance radar; vessel radar; GPS</td>
</tr>
<tr>
<td>Visual Track</td>
<td>Theodolite</td>
</tr>
<tr>
<td>Bottom Composition</td>
<td>Sand, silt-clay, mud, rock</td>
</tr>
<tr>
<td>Sound Velocity Profile</td>
<td>Seasonal, fast surface layer; channeling</td>
</tr>
<tr>
<td>Avg daily air temp</td>
<td>30-50° winter; 60-80° summer</td>
</tr>
<tr>
<td>Annual precipitation</td>
<td>51 inches (some snow)</td>
</tr>
<tr>
<td>Fog</td>
<td>Occasional; prevalent in fall &amp; winter</td>
</tr>
<tr>
<td>Wind</td>
<td>5 to 20 kt predominantly from the South</td>
</tr>
<tr>
<td>Aircraft Support</td>
<td>Helicopter and airplane</td>
</tr>
<tr>
<td>Conductivity, Temperature &amp; Depth</td>
<td>Yes, integrated with tracking algorithm</td>
</tr>
</tbody>
</table>

Source: NUWC Keyport, Northwest Range User’s Guide

**Figure 2-22. Dabob Bay Range Complex Capabilities and Instrumentation**
Canadian Forces Maritime Experimental Test Range. Primary operations are focused on providing for production acceptance tests on underwater systems such as torpedoes, countermeasures, mobile targets, R&D test support and fleet tactical evaluations in ASW for Canadian Forces and the US Navy. Water depth reaches 1300 feet with an underwater tracking area of 50 nm². Specifications are depicted in Figure 2-23.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>CFMETR Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range size underwater</td>
<td>50 nm²</td>
</tr>
<tr>
<td>Depth</td>
<td>900 to 2400 ft</td>
</tr>
<tr>
<td>Above water tracking coverage</td>
<td>450 nm²</td>
</tr>
<tr>
<td>Unique Features</td>
<td>Mid-depth Littoral</td>
</tr>
<tr>
<td># Arrays &amp; Separation</td>
<td>29 arrays; 7500 ft separation</td>
</tr>
<tr>
<td>Underwater Track</td>
<td>75 kHz PSK</td>
</tr>
<tr>
<td>Underwater Track Accuracy</td>
<td>± 3 ft relative; ± 10 ft absolute</td>
</tr>
<tr>
<td># Simultaneous Tracks</td>
<td>12 vehicles or items</td>
</tr>
<tr>
<td>Real Time Telemetry</td>
<td>24 bits/ping</td>
</tr>
<tr>
<td>Above Water Track</td>
<td>ATR &amp; vessel radar; GPS; cinesextant /TSPI</td>
</tr>
<tr>
<td>Bottom Composition</td>
<td>Mud, rock, sand</td>
</tr>
<tr>
<td>Sound Velocity Profile</td>
<td>Seasonal, fast surface layer; channeling</td>
</tr>
<tr>
<td>Avg Daily Air Temp</td>
<td>30-50° winter; 55-75° summer</td>
</tr>
<tr>
<td>Annual Precipitation</td>
<td>48 inches (some snow)</td>
</tr>
<tr>
<td>Fog</td>
<td>Anytime, prevalent in fall &amp; winter</td>
</tr>
<tr>
<td>Wind</td>
<td>5 to 20 kt predominantly from SE</td>
</tr>
<tr>
<td>Aircraft Support</td>
<td>Helicopter &amp; Floatplane</td>
</tr>
<tr>
<td>Conductivity, Temperature &amp; Depth</td>
<td>Yes, integrated with tracking algorithm</td>
</tr>
</tbody>
</table>

Source: NUWC Keyport, Northwest Range User’s Guide

Figure 2-23. CFMETR Site Capabilities and Instrumentation

Quinault Range Site. The Quinault Range Site is located 7.5 miles seaward of the Olympic coast, at Kalaloch, WA. This site has a range size of 51.8 nm², and provides a shallow ocean environment; maximum depth is 320 ft for RDT&E on such projects as the advanced Mk 50 Light Weight Torpedo. Specifications are depicted in Figure 2-24.
<table>
<thead>
<tr>
<th>Quinault Range Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range size underwater</td>
</tr>
<tr>
<td>Depth</td>
</tr>
<tr>
<td>Above water track coverage</td>
</tr>
<tr>
<td>Unique Features</td>
</tr>
<tr>
<td># Sensors &amp; Separation</td>
</tr>
<tr>
<td>Underwater Track</td>
</tr>
<tr>
<td>Underwater Track Accuracy</td>
</tr>
<tr>
<td># Simultaneous Tracks</td>
</tr>
<tr>
<td>Real Time Telemetry</td>
</tr>
<tr>
<td>Above water Track</td>
</tr>
<tr>
<td>Bottom Composition</td>
</tr>
<tr>
<td>Sound Velocity Profile</td>
</tr>
<tr>
<td>Avg Daily Air Temp</td>
</tr>
<tr>
<td>Annual Precipitation</td>
</tr>
<tr>
<td>Wind</td>
</tr>
<tr>
<td>Aircraft Support</td>
</tr>
<tr>
<td>Conductivity, Temperature &amp; Depth</td>
</tr>
</tbody>
</table>

Source: NUWC Keyport, Northwest Range User's Guide

2.4.4.1.3 Land / SUA

NUWC Keyport uses some land owned by the government, for the headquarters area and on site range operations. Existing land from the water extends to five miles inland, includes 657 acres along the Hood Canal, and 290 acres at Keyport. This includes the range control site at Zelatched Point on Dabob Bay, the CFMETR control facility at NUWC Keyport, and the trailer at Ranger Station at Kalaloch, WA for the Quinault Range Site. The facilities on shore serve as the central point of termination for fixed bottom hardware and computer processing of 3D track on Range. For Zelatched Pt. and CFMETR (Nanoose) they are also the Command and Control location for Range operations. CFMETR (Nanoose) site also contains a maintenance facility at Ranch Pt. Kalaloch facilities that consist of only one trailer are remotely operated from Zelatched Pt.

The facilities at Zelatched Point include a building to house the computer, buildings to house winches for haul-down of MK-69 target system and the Bottom Moored Array, a building for radar, a Helicopter pad and a pier for small craft and float plane (presently unserviceable due to storm damage). This land area is approximately five acres.

At CFMETR (Nanoose), there are four buildings, a computer building, generator building, radar building, and Cinesextant building. A helicopter pad and a large pier for Fleet ships and small pier for range craft exist at Ranch Pt. A building to house the computer site, a Helicopter pad, and a pier for small craft and float planes are located at Winchelsea Island. The land area is
approximately three acres at Ranch Point and about five acres at Winchelsea Island.

All range sites have the capability of accessing NUWC Range frequencies VHF (7 channels), UHF (2 channels), VHF Marine band, and telephone.

2.4.4.2 Scheduling

Scheduling is centralized at NUWC Keyport for all range sites including CFMETR (Nanoose), and is accomplished through DoD message, telephone, or mail.

2.4.4.3 Communications

Communications at NUWC Keyport are robust. Voice, data, video, and telemetry are transmitted from remote sites to the Keyport Facility by several technologies (Figure 2-25).

<table>
<thead>
<tr>
<th>System</th>
<th>CFMETR</th>
<th>Dabob Bay</th>
<th>Keyport</th>
<th>Quinault</th>
</tr>
</thead>
<tbody>
<tr>
<td>VHF voice</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>UHF secure voice</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cellular Phone</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Limited</td>
</tr>
<tr>
<td>P-band Telemetry (analog, digital to 4800 baud)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Differential GPS Data Link</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Underwater Telephone (Bottom mounted)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Portable</td>
</tr>
<tr>
<td>Marine Band Voice</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>DREN (internet link the rest of the world)</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Microwave system</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>3-D track (underwater)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>2-D yes</td>
</tr>
<tr>
<td>RNet (above surface)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: NUWC Keyport, Northwest Range User’s Guide

Figure 2-25. NUWC Keyport Communications Systems

2.4.4.3.1 Exercise Control and Coordination (EC&C) Circuits

There are dedicated RF circuits and other types of communications for exercise control and coordination (see Figure 2-20).

2.4.4.3.2 Operations Communications (OC) Circuits

The operations communications circuits are the same as exercise control and coordination.
2.4.4.3 Data Link (D/L) Circuits

Data links provide tracking, acoustics, voice, and video to the Range Information Display Center.

2.4.4.4 Meteorology

Bathometric sensors are in place on all range sites to monitor underwater conductivity and temperature. These measurements help to determine sound velocity profiles during operations. Routine above surface sensors exist on site for measuring air temperature, wind direction, and wind velocity.

2.4.4.5 Targets and Target Arrays

NUWC Keyport range sites offer a full spectrum of artificial/real, passive, stationary/mobile targets, operated & maintained by NUWC Keyport. NUWC provides the MK-30 underwater target for ASW training. The MK-30 is a fully programmable underwater vehicle capable of acoustically simulating the characteristics of all known submarines in the modern Navy. It is capable of speeds from 3 to 22 knots and can operate at depths from 50 to 2,000 feet. Other targets include:

- R&D Test Vehicles include the General Test Vehicle (GTV) which is electric based, the eXperimental Test Vehicle (XTV), and the Mobile Test Vehicle (MTV) that are thermal based. The vehicles are used extensively for experimentation and R&D of next generation USW Weapons and Systems.
- EX 43 Over-the-side Stationary Target. For torpedo proofing & special projects.
- MK 69. Bottom Mounted Target and the programmable over-the-side T&E Target. For torpedo proofing & special projects.
- SONAR Acoustic Target Source III. Provides a target source & measuring system for sonar certification.
- Passive Acoustic SONAR Target (PAST). Provides a target source for sonar certification.
- Countermeasure Emulator (CME). Emulates USN countermeasure devices against homing capability of acoustic guided torpedoes.
- Modular Target. Alternative to "PAST" and stationary CME, MATIMS, and MK 17 target.
- Mobile Acoustic Target Interrogator System (MATIMS). Used to evaluate mobile target performance.
- Expendable Influence Target (EIT). Used to conduct non-destructive passive warhead influence testing on torpedoes during terminal homing impact.
- Target Size Measurement System (TSMS). Provides precise target strength measurements, directional passive monitoring, passive noise emitter, transponder or echo repeating target.
- MK 6 (BAT). Towed white noise generator.
2.4.6 Instrumentation

Several above water tracking and navigation systems support the NUWC Keyport ranges. These ranges were described previously in Figures 2-21 through 2-24.

These systems provide track data to meet test, safety, surveillance and control objectives.

- Range Navigation System
- Differential GPS
- Aid to Navigation
- Underwater Emergency Warning System
- Cinesextant (video tracking and TSPI system at Nanoose) & Theodolite (surveyor’s instrument)
- Safety & Surveillance Radar
- Vessel Radar

The DBRC, CFETR, and Quinalt Sites have fixed instrumentation. The Keyport Site does not have fixed instrumentation, but uses a portable system called SWIFT when needed. SWIFT portable range is also used in non-instrumented areas of the ranges or when customer requirements dictate.

2.4.6.1 Tracking

All NUWC sites have fixed underwater acoustic measuring and tracking systems. Keyport range site uses the SWIFT portable system (see Figures 2-21 through 2-24).

2.4.6.2 Exercise Control and Coordination (EC&C)

A robust underwater system of arrays and above water radars, and GPS, provide exercise control and coordination (see Figures 2-21 through 2-25).

2.4.6.3 Modeling and Simulation (M&S)

Modeling and simulation are part of the RDT&E process, and are conducted in the RDT&E work on the NUWC Keyport range sites.

2.4.6.4 Scoring

The significant instrumentation designed for underwater RDT&E is ideal for training Fleet units on a small scale.
2.4.4.5 Debriefing

The significant instrumentation designed for underwater RDT&E is ideal for training Fleet units on a small scale.

2.4.4.7 Opposition Forces

No standing OPFOR exists.

2.4.4.8 Other Infrastructure

A combination of helicopter, surface vessel, and underwater recovery vehicles exists to retrieve targets, torpedoes, and underwater vehicles. NUWC Keyport operates a fleet of 14 small ships and boats that launch and retrieve ordnance (e.g., torps), conduct salvage ops, support research, and perform range maintenance.

Other infrastructure includes:
- Underwater Noise Analysis Facility (UNAFAC)
- Noise Recording System (NRS-4)
- Fire Control/Launch Systems
- Bottom Moored Array (BMA) at Dabob Bay
- Portable Acoustic Measurement System (PAMS)
- High Frequency Noise Measurement System (HFNMS)
- Ambient Noise System (ANS)
- Multimedia Acoustic Reporting System (MARS)
- Acoustic Test Facilities (ATF)

2.5 Naval Special Warfare Training Ranges

The NSW Advanced Training Detachment Kodiak was established in 1987, originally part of NSW Group ONE, to conduct cold weather training. The detachment transferred to the Naval Special Warfare Center (NSWC) in the year 2000, and formally developed and implemented the current course of instruction in 2002. The detachment consists of fifteen Navy personnel, mostly SEAL instructors, conducts training year around on Kodiak Island, Alaska. Each class is 38 days in duration with an average class size of 50 undergraduate SEAL students. Training focuses on the cold environment, land navigation, survival skills, cliff negotiation, river/stream crossing, and a collective skills exercise. Figure 2-26 describes the range attributes of the NSW training areas at Kodiak.

2.5.1 NSW Advanced Training, Detachment Kodiak Island

2.5.1.1 Scheduling

NSWC, in Coronado, CA, manages the schedule for all west coast SEAL undergraduate training including cold weather training at Kodiak. SEAL Team members that did not get initial cold weather training at Kodiak schedule the training through NSWC Center.
2.5.1.2 Training Media

Training media emphasizes cold weather and cold water. This includes the North Pacific Ocean contiguous to Kodiak Island; rocky, steep terrain on the coastline; and mountainous terrain with streams to traverse on the northern quarter of Kodiak Island. The students come ashore from the cold ocean onto a rocky beach in cold to freezing temperatures, possibly with rain or snow. They hike up mountainous terrain over 2500 feet in elevation and transition to colder harsher climate as they climb. They must cross natural streams and make concealment shelters for cover and protection as they rest.

2.5.1.3 Training Area

NSW Advanced Training Detachment Kodiak maintains a training facility, on 130 acres of land leased from the USCG, on the northeast tip of Kodiak Island, called Spruce Cape. The facility is on level, wooded terrain, situated approximately 30 feet above the ocean separated by a cliff face. The facility consists of five metal buildings for classroom instruction, berthing, dining, vehicle maintenance and storage. There are seventeen trucks to transport students, five snow machines, and four ATVs. Most of the cold weather instruction occurs on several hundred acres of mountainous terrain, ocean areas near land, and rocky cliff faces meeting the ocean. The land is owned by the state of Alaska, Indian Corporations, or the Bureau of Land Management (Figures 2-27 and 2-28).
### Range Attribute

<table>
<thead>
<tr>
<th>Operational Elements</th>
<th>NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airspace</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>None</td>
</tr>
<tr>
<td>Lower Limit</td>
<td>NA</td>
</tr>
<tr>
<td>Upper Limit</td>
<td>NA</td>
</tr>
<tr>
<td>Availability</td>
<td>NA</td>
</tr>
<tr>
<td>Supersonic Ops</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>10 nm²</td>
</tr>
<tr>
<td>Availability</td>
<td>7/24</td>
</tr>
<tr>
<td>Vicinity to land</td>
<td>Within 1 nm of Kodiak Is. Or Long Is.</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
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<td>As required</td>
</tr>
<tr>
<td>Description</td>
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<td>Web-enabled database?</td>
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<td>Pre-event module?</td>
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</tr>
<tr>
<td>Real-time event module</td>
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</tr>
<tr>
<td>Post-event module?</td>
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</tr>
<tr>
<td>Post-event msg generation?</td>
<td>No</td>
</tr>
<tr>
<td>Other</td>
<td>Cold Wx Trng IAW NSW Syllabus</td>
</tr>
<tr>
<td><strong>Communications System</strong></td>
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<td>Voice Circuits</td>
<td>VHF / FM hand held radios</td>
</tr>
<tr>
<td>Secure Capabilities</td>
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</tr>
<tr>
<td>Data-link</td>
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</tr>
<tr>
<td><strong>Weather Observing and Reporting (Met) System</strong></td>
<td></td>
</tr>
<tr>
<td>Met System</td>
<td>USCG Station Kodiak provides met info</td>
</tr>
<tr>
<td><strong>Target System</strong></td>
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<tr>
<td>Air Targets</td>
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<tr>
<td>Air to Ground Targets</td>
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</tr>
<tr>
<td>Surface Targets</td>
<td>None</td>
</tr>
<tr>
<td>Underwater Targets</td>
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<tr>
<td><strong>Instrumentation System</strong></td>
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<tr>
<td>Tracking System</td>
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<td>High Fidelity</td>
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<tr>
<td>Low Fidelity</td>
<td>No</td>
</tr>
<tr>
<td>Scoring</td>
<td>No</td>
</tr>
<tr>
<td>Debriefing</td>
<td>Yes, in classroom after outdoor events</td>
</tr>
<tr>
<td>Other</td>
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</tr>
<tr>
<td><strong>Opposition Force (OPFOR) System</strong></td>
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<td>Air OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>Surface OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>Subsurface OPFOR</td>
<td>No</td>
</tr>
<tr>
<td>EC Threat capability</td>
<td>No</td>
</tr>
</tbody>
</table>

Source: Naval Special Warfare Center

Figure 2-26. NSW Range Attributes on Kodiak Island, AK
Figure 2-27. NSW Training Sites on Kodiak Island
Source: Alaska Department of Natural Resources Land Records Information Section, Alaska Department of Community and Economic Development, USGS

Figure 2-28. NSW Training Sites and Land Ownership, Kodiak, AK
2.5.1.4 Authorized Ordnance

No ordnance is authorized on the NSW training areas.

2.5.1.5 Communications

Hand held radios are used by NSW instructors. The NSW facility has internet, SIPR net, and telephones.

2.5.1.6 Targets and Scoring

There are no targets or scoring systems on the NSW training areas. The SEALs need a live fire rifle range for training students in cold environments. A municipal range exists near Salonie Creek at the mouth of Women’s Bay. The city council of Kodiak favors allowing the SEALs to train on this range. However, due to 7.62mm and 5.56mm Surface Danger Zone requirements, the range requires modification to change the direction of fire. Once a live-fire range is accomplished, NSWC expects each student to fire 20-30 rounds of 7.62 or 5.56mm per class.

2.5.1.6.1 Instrumentation

There is no instrumentation on the NSW training areas.

2.5.1.6.2 Opposition Forces

There are no opposition forces on the NSW training areas.
3 CURRENT RANGE COMPLEX OPERATIONS

3.1 INTRODUCTION TO RANGE COMPLEX OPERATIONS

The principal focus of the Northwest Training Range Complex (NWTRC) Range Complex Management Plan (RCMP) is on training and test operations that support the Navy Fleet Readiness Training Plan (FRTP) and Naval Special Warfare (NSW) training. The purpose of focusing on these exercises is to: (1) support the development of subsequent environmental planning documents and (2) develop an investment strategy tailored to the FRTP and NSW training operations conducted or planned within the range complex.

3.1.1 Method for Determining Training Operations Included in the Northwest Training RCMP

The method for determining the training operations to be included in the NWTRC RCMP is a four-step process starting with the Navy Tactical Task List (NTTL):

1. A list was developed of Navy tactical tasks (NTA) that: a) are FRTP tactical training operations or events; b) require a range, training area, operating area (OPAREA), special use airspace (SUA), or facility; and c) may require environmental planning or investment to support the training operation, event, or both.

2. Each task on the tailored NTA list was correlated to one or more types of Navy training operations.

3. This list of training operations was further assessed for those that are currently conducted or are planned in the future within the entire NWTRC.

4. The final list was developed by removing one-time or non-recurring operations.

The result of this process is a representative list of training operations and events currently conducted and/or planned over the next ten years at the NWTRC that may require further investment or environmental planning. Training operations conducted by the United States Air Force, Army, and Marine Corps were determined in the same manner as Navy operations using the Air Force Task List (AFTL), Army Universal Task List (AULT), and Marine Corps Task List (MCTL) respectively, and are listed in applicable operations sections within the chapter.

3.1.2 Operations Included in the Northwest Training RCMP

The operations included in this RCMP are arranged in NTA order as shown in Figure 3-1. One Army tactical task (ART) operation and several research, development, test, and evaluation (RDT&E) operations are also included in the figure. The RCMP Volume I Guidebook provides thorough descriptions of each type of operation.
<table>
<thead>
<tr>
<th>Navy Task</th>
<th>NTA</th>
<th>Range Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deploy/Conduct Maneuver</td>
<td>1.0</td>
<td>Long Title</td>
</tr>
<tr>
<td>Conduct Tactical Insertion and Extraction</td>
<td>1.1.2.4</td>
<td>Insertion/Extraction</td>
</tr>
<tr>
<td>Perform Mine Countermeasures</td>
<td>1.3.1</td>
<td>Mine Neutralization</td>
</tr>
<tr>
<td>Detonate Mines and Explosives</td>
<td>1.4.4</td>
<td>Land Demolitions</td>
</tr>
<tr>
<td>Conduct Navy Special Warfare</td>
<td>1.5.6</td>
<td>Naval Special Warfare Operations</td>
</tr>
<tr>
<td>Develop Intelligence</td>
<td>2.0</td>
<td>Short Title</td>
</tr>
<tr>
<td>Perform Tactical Reconnaissance and Surveillance</td>
<td>2.2.3</td>
<td>Intelligence, Surveillance, and Reconnaissance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unmanned Aerial Vehicle Operations</td>
</tr>
<tr>
<td>Employ Firepower</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Attack Surface Targets</td>
<td>3.2.1.1</td>
<td>Bombing Exercise (Sea)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Air-to-Surface Missile Exercise</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Surface-to-Surface Gunnery Exercise (Ship)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sink Exercise</td>
</tr>
<tr>
<td>Attack Submerged Targets</td>
<td>3.2.1.2</td>
<td>Antisubmarine Warfare Tracking Exercise – Maritime Patrol Aircraft</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Antisubmarine Warfare Tracking Exercise – Helicopter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anti-Submarine Warfare Tracking Exercise - Submarine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anti-Submarine Warfare Torpedo Exercise – Maritime Patrol Aircraft and Helicopter</td>
</tr>
<tr>
<td>Attack Enemy Aircraft and Missiles (Offensive Counter Air)</td>
<td>3.2.3</td>
<td>Air Combat Maneuver</td>
</tr>
<tr>
<td>Suppression of Enemy Air Defense (SEAD)</td>
<td>3.2.4</td>
<td>High-Speed Anti-radiation Missile Exercise</td>
</tr>
<tr>
<td>Conduct Electronic Attack</td>
<td>3.2.5</td>
<td>Electronic Combat Operations</td>
</tr>
<tr>
<td>Interdict Enemy Operational Forces and Targets</td>
<td>3.2.6</td>
<td>Bombing Exercise (Land)</td>
</tr>
<tr>
<td>Intercept, Engage, and Neutralize Enemy Aircraft and Missile Targets (Defensive Counter Air)</td>
<td>3.2.7</td>
<td>Surface-to-Air Gunnery Exercise</td>
</tr>
<tr>
<td>Conduct Fire Support</td>
<td>3.2.8</td>
<td>Marksmanhip</td>
</tr>
<tr>
<td>Army Universal Task (AUTL)</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Conduct Airborne Operations</td>
<td>2.5.4/2.5.5</td>
<td>Night Vision Goggle (NVG) Low-Level Training and Air-to-Ground GUNEX</td>
</tr>
<tr>
<td>Research, Development, Test, and Evaluation</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Submarine Post-Refit Trials</td>
<td>N/A</td>
<td>Submarine Post-Refit Trials</td>
</tr>
<tr>
<td>Torpedo and Experimental Vehicle Testing</td>
<td>N/A</td>
<td>Torpedo and Experimental Vehicle Testing</td>
</tr>
<tr>
<td>Unmanned Undersea Vehicles (UUV) Operations</td>
<td>N/A</td>
<td>Unmanned Undersea Vehicles (UUV) Operations</td>
</tr>
</tbody>
</table>

**Figure 3-1. Navy Training and Test Operations in the NWTRC RCMP**

Numbers of operations are calculated from Fiscal Year 2004 (FY 2004) data. Operations that did not occur in FY 2004 but occur on a cyclical basis are described to reflect a typical year in which the operation may occur. Summary information and data on each
operation are displayed on a data strip following the operation
description and are further detailed in the Operations Data Book.
Additional NTAs and ARTs that have been supported or will likely
be supported by the NWTRC in the next ten years are listed in
Figures 3-2 and 3-3 to provide a comprehensive picture of range
capabilities.

The operational data is derived from several sources, including
Annual Airspace Usage Reports, Annual Military Training Route
records, NWTRC range scheduling data, and user interviews. The
metric used to describe the amount of training varies depending on
the source of the data available for each type of operation. The
metrics used to quantify operations at the NWTRC are operations
and sorties.

3.1.3 Major Range Events Included in an RCMP

Major range events included in an RCMP are grouped separately
from individual range operations. They are significant operational
employments during which range operations are conducted involving
multiple NTAs, units, and capabilities. Typically they occur across a
broad area of the range complex or in multiple range complexes.

Data are typically reported at the individual range operation level, so
specific component details of a major range event are typically
captured in the range operation/NTA data strip (Integrated or
Sustainment columns), while the number and types of major range
events are displayed in a data strip following the description of the
major range event. In general, major range events may include:

- Joint Task Force Exercise (JTFEX)
- Composite Training Unit Exercise (COMPTUEX)
- Expeditionary Strike Group Exercise (ESGEX)

There were no major range events conducted in the NWTRC in
FY 2004 nor are any normally scheduled in the range complex.

3.2 Operations Description

3.2.1 Insertion/Extraction (NTA 1.1.2.4)

Insertion/extraction operations hone individual skills in delivery and
withdrawal of personnel and equipment using unconventional
methods. Helicopter Rope Suspension Training (HRST) and
parachute training are the principal insertion/extraction methods used
by explosive ordnance disposal (EOD) teams at the NWTRC.

HRST encompasses Helocast, special purpose insertion and
extraction (SPIE), rappel, and fast rope exercises. Helocast training
involves a helicopter flying slowly and low over the water near a
target to allow EOD team members to jump out one at a time. The
technique is typically used for quick insertion to dispose of
hazardous floating mines. A SPIE rigging exercise involves up to
eight personnel attached to a rope suspended from a helicopter, allowing the EOD team to be hoisted from or lowered onto the ground without having to land the helicopter. In fast roping, EOD team members slide down a rope from a helicopter, which hovers as high as 60 feet off the ground. Explosive Ordnance Disposal Mobile Unit Eleven (EODMU-11) detachments conduct HRST training operations monthly throughout the Seaplane Base using an H-60.

The parachute insertion method is designed to place special forces teams into an objective area undetected to conduct clandestine operations, either reconnaissance and surveillance, or direct action type missions. EODMU-11 detachments perform parachute training four days per month at Outlying Field (OLF) Coupeville and two days per month in Crescent Harbor.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
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<tbody>
<tr>
<td>Helicopter Insertion/Extraction</td>
<td>1.1.2.4</td>
<td>Seaplane Base</td>
<td>Ops</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>36</td>
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<tr>
<td>Parachute Insertion/Extraction</td>
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<td>OLF</td>
<td>Ops</td>
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<td>48</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>48</td>
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<tr>
<td>Total</td>
<td></td>
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<td>Ops</td>
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<td>0</td>
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<td>24</td>
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<td></td>
<td></td>
<td>Ops</td>
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<td>108</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>108</td>
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</tbody>
</table>

Future Activities and Considerations: At the time of data collection, nine EODMU-11 detachments were homebased at the Whidbey Island Seaplane Base. Since that time, the unit has expanded to ten detachments. Accordingly, future HRST and parachute training operations are expected to increase by 10 percent. There is also a potential to expand high altitude low opening (HALO)/high altitude high opening (HAHO) training operations, currently conducted at OLF Coupeville, to Naval Weapons Systems Training Facility Boardman (Boardman).

3.2.2 Mine Neutralization (NTA 1.3.1)

Naval EOD operations require proficiency in underwater mine neutralization. Mine neutralization operations consist of underwater demolitions designed to train personnel in the destruction of mines, unexploded ordnance (UXO), obstacles, or other structures in an area to prevent interference with friendly or neutral forces and non-combatants.

EODMU-11 conducts underwater demolition training in Crescent Harbor. Typically, two blocks of C-4 are used per operation, consisting of one surface and one subsurface detonation. The total duration of the exercise is five hours (four hours for the underwater detonation and one hour for the surface detonation). Small boats such as MK-5, 7, or 9 Rigid Hull Inflatable Boats (RHIB) are used to insert personnel for underwater operations and either a helicopter (H-60) or RHIB is used for insertion for surface operations. Underwater
demolition training is also conducted at the Floral Point and Naval Magazine (NAVMAG) Indian Island Underwater EOD Ranges, though much less frequently (approximately 4 events per year at each). The numbers of operations recorded in the data strip below reflect the number of single detonations.

Naval Special Clearance Team ONE (NSCT-1) uses the Naval Undersea Warfare Center (NUWC) Keyport Range Site to conduct mine warfare (MIW) training. NSCT-1's primary mission is to conduct low-visibility, underwater mine and obstacle reconnaissance and clearance operations from over the horizon to the seaward edge of the surf zone. NSCT-1 is composed of SEALs, EOD divers, USMC reconnaissance divers, dolphins, and unmanned undersea vehicles (UUVs). In FY 2004, NSCT-1 conducted MIW training for two weeks at the Keyport Range Site.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA Area</th>
<th>Metric Qualification</th>
<th>Training</th>
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<th>Other Service</th>
<th>Total</th>
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<td>Floral Point Ops</td>
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<td>Indian Island Ops</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>Ops</strong></td>
<td><strong>74 0 0 0 74</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Future Activities and Considerations**: At the time of data collection, nine EODMU-11 detachments were homebased at the Whidbey Island Seaplane Base. Since that time, the unit has expanded to ten detachments. Accordingly, underwater demolitions are expected to increase by 10 percent.

Crescent Harbor is technically authorized for use of charges up to 20 lbs. net explosive weight (NEW). At the request of the Commander, Naval Region Northwest (CNRRNW), EOD units have implemented a self-imposed normal use limit of 2.5 lbs NEW to mitigate the impact of underwater demolitions training. This limit does not affect operations tempo, but does affect training realism. The NAVMAG Indian Island and Floral Point Underwater EOD Ranges have also imposed reduced charge NEW for mitigation purposes. A biological assessment has been conducted to determine the effects of this training on forage fish and salmon and the Navy is awaiting the biological opinion.

As far as MIW, a new building was recently completed in November 2005 at NUWC Keyport to house the Collaborative Test and Evaluation Center (CTEC). The high-tech resources of the building will enable units such as NSCT-1 to perform virtual mine training exercises, thereby expanding MIW capabilities at the Keyport Range Site.
3.2.3 Land Demolitions (NTA 1.4.4)

Land demolitions occur at the Seaplane Base EOD Demolition Training Range (Seaplane Base DTR) and at the Naval Base Kitsap (NBK), Bangor EOD Demolition Training Range (NBK Bangor DTR). A typical land demolition training exercise involves disrupting inert improvised explosive devices (IEDs) using different explosive-driven charges and tools such as C-4, DETA sheet, PAN rounds, DET cord, or electric blasting caps. The NEW training limit is 5 lbs. at the NBK Bangor DTR and 0.5 lbs. at the Seaplane Base DTR. Other EOD training activity occurs outside the Seaplane Base DTR within the Seaplane Base Survival Area and includes activities such as locating and defusing (inert) surface ordnance.

Land demolitions are conducted at the Seaplane Base DTR eight times per month by EODMU-11. EODMU-11 Detachment Bangor conducted six operations on the NBK Bangor DTR in FY 2004.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA 1.4.4</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
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<tr>
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<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seaplane Base DTR Ops</td>
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<td>0</td>
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<td><strong>TOTAL</strong></td>
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</tbody>
</table>

Future Activities and Considerations: At the time of data collection, nine EODMU-11 detachments were homebased at the Whidbey Island Seaplane Base. Since that time, the unit has expanded to ten detachments. Land demolitions are expected to increase by 10 percent with the addition of the detachment.

An environmental assessment (EA) was prepared in July 2000 to evaluate the proposed relocation of the Seaplane Base DTR to be used by EODMU-11 for a range of .25 lbs. to 5 lbs NEW, depending upon weather and wind conditions, and up to fifteen detonations per week; however, this has not yet been accomplished. Future relocation opportunities may arise again in the future as the new Ault Field weapons magazine is constructed and Seaplane Base magazines are inactivated. Establishing an EOD DTR at Boardman could fulfill both EOD and NSW requirements for large NEW and fragmentation limits.

3.2.4 Naval Special Warfare (NSW) Operations (NTA 1.5.6)

All Navy SEALs attend the six-month Basic Underwater Demolition/SEAL (BUD/S) Training conducted by the Naval Special Warfare Center (NSWC). Upon completion of BUD/S, all SEALs attend Basic Airborne Training and then follow-on SEAL
Qualification Training (SQT). SQT provides advanced individual skills and small-unit training.

One of the initial phases of SQT is the SEAL Cold Weather Maritime Course. The course is 38 days long, with the first 28 days taught at the Kodiak Cold Weather Training Facility in Alaska. After completing the training at Kodiak, a team of five instructors accompanies the class to San Diego, California for 10 days of Maritime Operations Training. The Kodiak detachment trains four classes per year with an average of 50 students per class. The training curriculum is divided into six segments, each lasting three to seven days and includes:

- Indoctrination/gear familiarization/lying-up point (LUP)
- Survival skills/over-the-beach (OTB) training
- Land navigation
- Cliff negotiation/river and stream crossing
- Collective skills exercises (CSX)
- Maritime operations (San Diego)

SEAL Delivery Vehicle Team ONE (SDVT-1) from Naval Special Warfare Group THREE (NSWG-3) conducts underwater Unit Level Training (ULT) exercises twice a year at the NUWC Keyport Range Site and Dabob Bay Range Complex (DBRC) to fulfill cold water training requirements. During training detachments, operations occur daily for a six- to seven-week period. SDV diving operations make up approximately 4 weeks of this detachment.

The remaining two to three weeks are used for land-based training at Indian Island. The SDV is launched from Port Townsend, travels for approximately three hours, and delivers four to six SEALs to Indian Island where OTB training occurs. The SEALs also perform special reconnaissance while on the island. The SDV returns two days later to recover the SEALs.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
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</thead>
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<td>Underwater ULT</td>
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<tr>
<td></td>
<td></td>
<td>Indian Island</td>
<td>Ops</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td><strong>203</strong></td>
</tr>
</tbody>
</table>

Future Activities and Considerations: Currently, there is no live-fire rifle range for training SEALs to fire in cold environments. The city council of Kodiak is considering options to provide the SEALs such range. If this capability is realized, NSWC anticipates that each student will fire 20-30 rounds of 7.62 mm or 5.56 mm per class.
According to SDVT-1, optimal range conditions would allow for an uninterrupted transition from OTB training to a live-fire sniper operation (currently not available at Indian Island). The Lake Hancock Target Range, the Boardman range, or Ault Field could potentially provide this capability in the future.

SDVT-1 also requires an underwater demolition range that allows a significantly larger NEW than the current limits. Some types of operations could require a NEW of 300 to 500 lbs. Navy 3 or Navy 7 should be explored as potential locations to satisfy this need.

### 3.2.5 Intelligence, Surveillance, and Reconnaissance (ISR) (NTA 2.2.3)

Intelligence refers to the information and knowledge obtained through observation, investigation, analysis, or understanding. Surveillance and reconnaissance refer to the means by which the information is observed. Surveillance is the systematic observation of a targeted area or group, usually over an extended time, while reconnaissance is a specific mission performed to obtain specific data about a target.

ISR is conducted by P-3C, Maritime Patrol Aircraft (MPA) in W-237 and the Pacific Northwest Operating Area (PACNW OPAREA). Operations typically last 6 hours and involve a crew of 11 personnel. Approximately 980 sonobuoys were expended by P3-C to support ISR operations in FY 2004. Canadian Air Force CP-140 MPA also utilize W-237 to conduct sovereignty patrols. These operations occur one to two times per week and last approximately three hours.

On occasion, small unit (SOF) air, surface, subsurface, and ground ISR operations occur in the Crescent Harbor/Survival Area OPAREAS. Examples of special forces units that have used the Survival Area for ground ISR training include Navy Reserve Mobile Inshore Undersea Warfare Units, the U.S. Army 1st Special Forces Group, and the U.S. Army Intelligence Group of the 1st Stryker Brigade.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
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Future Activities and Considerations: The Lockheed-built P-3C Orion aircraft is expected to be replaced by the P-8, a variant of the Boeing 737, between FY 2012 and FY 2015. Aircraft capabilities are expected to remain the same with the exception of the P-8 capability to control broad area maritime surveillance (BAMS) UAVs. No changes in training requirements or tempo are anticipated.
3.2.6 Unmanned Aerial Vehicle (UAV) Operations (NTA 2.2.3)

Unmanned Aerial Vehicle operations train forces to obtain information about enemy activity and tactical areas of operation using UAVs. The Boeing Company conducts flight tests and launch and recovery exercises for the Scan Eagle UAV in Boardman restricted areas R-5701, R-5706, and Admiralty Bay restricted area R-6701 under contract to the Office of Naval Research. The Scan Eagle UAV has a unique recovery system called skyhook, which involves catching a rope suspended from a 50-foot pole. This system allows the UAV to recover without a landing field or runway.

UAV operations in Boardman are approximately 1.5 hours in duration and can involve as many as 3-4 aircraft in flight at one time, all operating independently. Operations in Admiralty Bay are conducted three times a year for three to four days each and consist of maritime testing and maritime training involving a 51’ research vessel with Scan Eagle launch and recovery systems and control center capabilities. An operation using the research vessel typically lasts two to three hours. In FY 2004, a couple of UAV operations were conducted in W-237. However, 51’ vessels are significantly hampered by high sea states in this area and therefore UAV RDT&E operations in W-237 are not anticipated to continue.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
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<th>Sustainment</th>
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<td>0</td>
<td></td>
<td>740</td>
</tr>
</tbody>
</table>

Future Activities and Considerations: UAV operations at the NWTRC are expected to quadruple in FY 2006. Because of this increase, future operations around Boardman will also take place in the Arlington Certificate of Authority (COA) issued by the Federal Aviation Administration (FAA). This COA will allow Boeing to fly UAVs outside of restricted airspace in addition to Boardman. There is also the potential for fleet deployment of a Scan Eagle-type UAV in the future.

Navy 7, located beneath R-6701, was not scheduled in FY 2004 but can be used for UAV operations. Also, the Lake Hancock Range could prove to be a valuable training area for future UAV use. As early as FY 2012, the P-8 will begin to replace the locally based P-3 aircraft. The P-8 capability to control the BAMS UAVs will contribute to the increase in UAV training missions. Other future requirements for UAV platforms such as Fire Scout, Global Hawk, and Predator as well as UAV operations from submersible, ship,
3.2.7 Bombing Exercise (Sea) (BOMBEX (Sea)) (NTA 3.2.1.1)

Fixed-wing aircraft conduct air-to-surface BOMBEX operations against stationary targets. Historically, ordnance has been released throughout W-237, just south of W-237, and in international waters in accordance with international laws, rules, and regulations. P-3C squadrons from Commander, Patrol, and Reconnaissance Wing TEN (CPRW-10) are required to conduct one live-fire drop per 24-month cycle. CPRW-10 consists of three active duty VP squadrons and one Reserve squadron (VP-69). A total of 12 crews are in each squadron. One crew will drop live fire (consisting of four MK-82) while the remaining 11 crews will drop inert ordnance (consisting of four BDU-45) for a total of 12 events per squadron per cycle. Accordingly, 96 pieces of ordnance, consisting of 8 MK-82 and 88 BDU-45, were dropped in FY 2004.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
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<tbody>
<tr>
<td>BOMBEX (Sea)</td>
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</table>

Future Activities and Considerations: The Lockheed-built P-3C Orion aircraft is expected to be replaced by the P-8 between FY 2012 and FY 2015. Aircraft capabilities are expected to remain the same with the exception of the P-8 capability to control BAMS UAVs. No changes in training requirements or tempo are anticipated. In addition, the introduction of Joint Strike Fighter (JSF) is not expected to have an appreciable effect on unit level BOMBEXs.

3.2.8 Air-to-Surface Missile Exercise (MISSILEX (A-S)) (NTA 3.2.1.1)

Air-to-Surface MISSILEX operations consist of the attacking platform releasing a guided weapon at a designated target. Similar to the BOMBEX operations, VP squadrons are required to perform three forward firing missile shots per 24 month cycle. The shots consist of one Maverick (AGM-65), one Harpoon (AGM-84D), and one Standoff Land Attack Missile (SLAM) (AGM-84E) against designated targets. No MISSILEXs were conducted by VP squadrons in FY 2004 but are expected to occur as required in FY 2005.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MISSILEX (A-S)</td>
<td>3.2.1.1</td>
<td>W-237/OPAREA</td>
<td>Ops</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Future Activities and Considerations: The Lockheed-built P-3C Orion aircraft is expected to be replaced by the P-8 between FY 2012...
and FY 2015. Aircraft capabilities are expected to remain the same with the exception of the P-8’s capability to control BAMS UAVs. No changes in training requirements or tempo are anticipated. The BAMS UAV is not expected to directly affect this operation; however, UAV training requirements and their concept of operations have not yet been fully determined. Also of consideration, the EA-18G lethal attack capability slated for 2014 and beyond may include A-S missile firing capability.

3.2.9 Surface-to-Surface Gunnery Exercise (Ship) (GUNEX (S-S) (Ship)) (NTA 3.2.1.1)

Surface gunnery exercises take place in the open ocean to provide gunnery practice for Navy ship crews. Exercises can involve a variety of surface targets that are either stationary or maneuverable. A GUNEX lasts approximately one to two hours, depending on target services and weather conditions.

The Canadian Pacific Fleet conducts a portion of their Task Group Exercise (TGEX) (similar in scope to a Composite Training Unit Exercise [COMPTUEX]) in the PACNW OPAREA three times per year involving one destroyer (DDH) (the HMCS Algonquin), one support ship (AOR) (the HMCS Protecteur), and two frigates (FFH) (Halifax class). Each DDH and FFH conducts firing exercises against either a Floating at-Sea Target (FAST) or a Barracuda Target (a remote-controlled RHIB). The gun systems employed against surface targets include the 57 mm, 76 mm, and .50 caliber machine gun.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
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</thead>
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<td>90</td>
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<td>90</td>
</tr>
</tbody>
</table>

Future Activities and Considerations: Very few surface operations are conducted in the PACNW OPAREA because of inclement weather, rough water, and the transit distance from port to the open ocean OPAREA. According to Maritime Forces Pacific, exercises involving Canadian ships are expected to decrease in the future (see Section 3.2.16).

3.2.10 Sink Exercise (SINKEX) (NTA 3.2.1.1)

A SINKEX provides training to ship and aircraft crews in delivering live ordnance on a real target. The target is an empty, cleaned, and environmentally remediated ship hull that is towed to sea and set adrift at the SINKEX location. The duration of a SINKEX is unpredictable because it ends when the target sinks, which is sometimes immediately after the first weapon impact and sometimes after multiple impacts by a variety of weapons. No SINKEX occurred in FY 2004. However, one SINKEX was conducted in FY 2005 and involved two destroyers, a frigate, eight F/A-18, two
SH-60B, a P-3 operating from land, two E-2C, and personnel from EOD Group One. Four U.S. Air Force F-15Es also participated in the exercise.

Ordnance included 7.62 mm, 5-inch, .50 cal, 76 mm, and 20 mm weapons, various bombs, air-to-surface missiles, an MK-48 torpedo, and air-to-surface Harpoon missiles. The ex-USS FIFE and ex-USS OLDENDORF served as targets.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
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</thead>
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</tr>
</tbody>
</table>

Future Activities and Considerations: The number of hulks that can be provided for sinking along with inclement seasonal weather can limit SINKEX operations. The proposed number of future SINKEX operations to occur in the NWTRC is one per year with a maximum of two per year.

3.2.11 Antisubmarine Warfare Tracking Exercise/Torpedo Exercise (ASW TRACKEX/ASW TORPEX) (NTA 3.2.1.2)

ASW TRACKEX trains aircraft, ship, and submarine crews in tactics, techniques, and procedures for search, detection, localization, and tracking of submarines. A typical unit-level exercise involves one ASW unit (aircraft, ship, or submarine) versus one target, usually an MK 30 Mobile ASW target, an MK 39 Expendable Mobile ASW training target (EMATT), or a live submarine. The target may be non-evading while operating on a specified track or fully evasive.

Participating units use active and passive sensors, including hull-mounted sonar, towed arrays, variable depth sonar, and sonobuoys for tracking. If the exercise continues into the firing of a practice torpedo, it is termed a TORPEX. The ASW TORPEX usually starts as a TRACKEX to achieve the firing solution.

At the NWTRC, P-3 MPA conducts ASW TRACKEX operations for basic level, individual crew training on a weekly basis in W-237, and the PACNW OPAREA. The majority of P-3 ASW missions requiring an instrumented underwater training range (UTR) occur at the Southern California Offshore Range (SCORE) near San Clemente Island. Canadian CP-140 MPA and Sea King helicopters conduct ASW tracking exercises on a monthly basis at the Nanoose Range Site with every other mission involving the expenditure of a practice torpedo (TORPEX). Approximately 3,244 sonobuoys were expended during ASW TRACKEXs in FY 2004. Of those sonobuoys deployed, 275 were AN/SSQ-110 extended echo ranging (EER) sonobuoys, which provide long-range, active detection of submerged submarines.
ASW TRACKEX is also a primary training exercise for NBK Bangor-based submarines. Training is conducted at the intermediate level and occurs in the PACNW OPAREA, sub areas C3 to E6. In FY 2004, eight ship, submersible, ballistic, nuclear (SSBN) submarines conducted ASW TRACKEX operations. These operations involved P-3s 30 percent of the time in FY 2004. Training events with P-3s typically last 8 to 12 hours.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
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</thead>
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</tr>
<tr>
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<td></td>
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<td>Ops</td>
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<td>29</td>
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<td>OPAREA</td>
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<td>Ops</td>
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<td>0</td>
<td>189</td>
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</tbody>
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Future Activities and Considerations: The Lockheed-built P-3C Orion aircraft is expected to be replaced by the P-8 between FY 2012 and FY 2015. All aircraft capabilities are expected to remain the same with the exception of the P-8 capability to control BAMS UAVs. Commander, Submarine Squadron ELEVEN (CSS-11) has a goal to increase involvement between the VP squadrons and submarine squadrons from 30 percent to 75 percent in the future.

The Improved Extended Echo Ranging (IEER) system is expected to improve the capabilities of the EER using an improved sensor, the AN/SSQ-101 Air Deployed Active Receiver (ADAR), in addition to the AN/SSQ-110. The system functions similarly to the EER and will not cause a change in the level of future operations.

In FY 2006, two SSGN submarines will be added to the current fleet of eight SSBNs. The SSGNs will be homeported at NBK Bangor, each with a crew of 200. With this addition, submarine ASW TRACKEX operations are expected to increase by 25 percent.

3.2.12 Air Combat Maneuver (ACM) (NTA 3.2.3) (AFT 1.1.1) (MCT 3.2.6)

ACM includes basic flight maneuvers (BFM) where aircraft engage in offensive and defensive maneuvering against each other. During an ACM engagement, no ordnance is fired. These operations typically involve two aircraft; however, based upon the training requirement, ACM exercises may involve over a dozen aircraft.

ACM operations within the NWTRC are primarily conducted by EA-6B Prowlers within the military operating areas (MOAs), warning areas, and military training routes (MTRs). Air Force or Air National Guard F-15s and Marine Corps FA-18s also conduct ACM operations.
in these areas, although on a much less frequent basis (about 5 percent of the total sorties). The MTRs are used for low altitude tactical training (LATT), which involves aircraft flying at speeds exceeding 300 knots and under 3,000 feet above ground level (AGL).

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>AFT</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACM</td>
<td>3.2.3</td>
<td>1.1.1</td>
<td>Boardman</td>
<td>Sorties</td>
<td>616</td>
<td>0</td>
<td>0</td>
<td>26</td>
<td>642</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.2.6</td>
<td></td>
<td>Okanogan</td>
<td>Sorties</td>
<td>257</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>275</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.2.6</td>
<td></td>
<td>Olympic</td>
<td>Sorties</td>
<td>720</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>724</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.2.6</td>
<td></td>
<td>Roosevelt</td>
<td>Sorties</td>
<td>154</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.2.6</td>
<td></td>
<td>Darrington</td>
<td>Sorties</td>
<td>180</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>MTRs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,189</td>
<td>0</td>
<td>0</td>
<td>81</td>
<td>1,270</td>
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<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,116</td>
<td>0</td>
<td>0</td>
<td>149</td>
<td>3,265</td>
<td></td>
</tr>
</tbody>
</table>

Future Activities and Considerations: The EA-6B “Prowler” will be replaced by the EA-18G “Growler” between FY 2008 and FY 2012. The total buy of EA-18G aircraft is currently 84. For the NWTRC, the existing 72 EA-6B aircraft will be replaced by 59 EA-18G aircraft; 45 EA-18Gs will replace the current 52 EA-6Bs in fleet squadrons and 14 EA-18Gs will replace 20 EA-6Bs currently in the Fleet Readiness Squadron (FRS). The result will be an 18% decrease in the number of electronic attack (VAQ) aircraft stationed at NAS Whidbey Island.

The Navy will disestablish the three remaining EA-6B expeditionary squadrons at a rate of one per year between FY 2010 and FY 2012, resulting in a decrease of both aircraft and personnel associated with these squadrons. When the transition to the EA-18G is complete, the FRS will no longer train replacement aircrews for Marine Corps and Naval Reserve EA-6B squadrons or the expeditionary squadrons.

In summary, the primary types of mission training and readiness requirements for the EA-18G squadrons will remain virtually the same as those for the EA-6B squadrons with an additional air-to-air combat training requirement. This new requirement is due to two supplementary AGM-120C anti-air missiles on the EA-18G configuration. Although the total number of training missions are projected to decrease in the future because of the disestablishment of the expeditionary squadrons, the greater role that ACM will play in EA-18G aircrew training will cause a slight increase in each aircrew’s ACM training requirements. These two factors should roughly balance out, resulting in a net zero change in level of ACM operations.
3.2.13 High-Speed Anti-Radiation Missile Exercise (HARMEX) (NTA 3.2.4)

High-speed anti-radiation missiles (HARM), the primary weapon for the Suppression of Enemy Air Defenses (SEAD), are designed to attack emitting radar. A HARMEX trains aircrews to conduct electronic attack using the HARM missile and is an integral part of EA-6B squadron training. Only captive HARM is used during HARMEX operations on the range complex. Captive weapons have active seekers for training but are not released and have no warhead or propulsion systems.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HARMEX</td>
<td>3.2.4</td>
<td>Boardman</td>
<td>Sorties</td>
<td></td>
<td>154</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>154</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Okanogan</td>
<td>Sorties</td>
<td></td>
<td>1,028</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,028</td>
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<tr>
<td></td>
<td></td>
<td>Olympic</td>
<td>Sorties</td>
<td></td>
<td>1,080</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
<td>Roosevelt</td>
<td>Sorties</td>
<td></td>
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<td>0</td>
<td>0</td>
<td>616</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3.2.4</td>
<td></td>
<td>Sorties</td>
<td></td>
<td>2,878</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2,878</td>
</tr>
</tbody>
</table>

Future Activities and Considerations: The EA-6B “Prowler” will be replaced by the EA-18G “Growler” between FY 2008 and FY 2012. Overall EA-18G HARMEX operations are expected to be fewer than the current number of EA-6B operations because of the disestablishment of expeditionary squadrons and net loss of VAQ aircraft.

Because of its large safety footprint, the HARM is never fired over land except in time of war. Other specific range requirements for the EA-18G HARM are classified.

3.2.14 Electronic Combat (EC) Operations (NTA 3.2.5)

Electronic combat (EC) prevents or reduces the effective use of enemy electronic equipment and ensures the continued use of friendly equipment as well as their command and control. EP-3, P-3C, and EA-6B aircraft use a 15E34B electronic signal emitter to conduct electronic support (ES) and electronic attack (EA) training in W-237 and the Darrington OPAREA.

ES provides the capability to intercept, identify, and locate enemy emitters while EA employs tactics, such as electronic jamming, to prevent or reduce effective use of enemy electronic equipment and command and control capability. Typical EC activities include threat-avoidance training, signals analysis, and use of airborne and surface electronic jamming devices to defeat tracking radar systems. The EA-6B also fly threat profiles against surface ships to train shipboard crews on the detection of threat aircraft electronic signatures or counterjamming of their own electronic equipment.
Future Activities and Considerations: The EA-6B “Prowler” will be replaced by the EA-18G “Growler” between FY 2008 and FY 2012. As explained in Section 3.2.13, overall EA-18G training operations are expected to be fewer than the current number of EA-6B operations. Currently, VAQ squadrons use Boardman airspace for EC tactics training; however, Naval Weapons Systems Training Facility (NWSTF) Boardman has no EC training emitters, targets, or scoring system, causing tactical maneuvering to be conducted with simulated threats only. The development of a new electronic warfare mobile target system is in the initial stages.

The Lockheed-built P-3C Orion aircraft is expected to be replaced by the P-8 between FY 2012 and FY 2015. It is unlikely that this change will affect EC operations.

### 3.2.15 Bombing Exercise (Land) (BOMBEX (Land)) (NTA 3.2.6)

Fixed-wing aircraft conduct air-to-ground bombing exercises against various types of stationary and moving targets. S-3B Viking aircraft from North Island trained at Boardman for one week in November 2004. It was estimated that over 600 MK-76 and BDU-45 bombs were dropped during the exercises. Although this operation did not occur in FY 2004, it is included to reflect Boardman’s capabilities as an aerial bombing range.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOMBEX (Land) 3.2.6</td>
<td>Boardman</td>
<td>Ops</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Future Activities and Considerations: The Boardman range is well suited for future aircraft air-to-ground operations. Future airframes may practice at low, medium, and high altitude using precision/laser-guided munitions. Only inert bombs are dropped at Boardman at this time. Allowing live air-to-ground ordnance at Boardman could increase future operations.

### 3.2.16 Surface-to-Air Gunnery Exercise (GUNEX (S-A)) (NTA 3.2.7)

Surface-to-air, live-fire gunnery exercises use air target services to simulate a threat aircraft or missile. Gun systems most commonly employed against aerial targets include the 5-inch, 57 mm, 76 mm, 20 mm Close-In Weapons System (CIWS), and 7.62 mm. The target is normally a towed target presented in a representative threat profile.
The Canadian Pacific Fleet conducts air gunnery training three times a year during the same TGEX described in Section 3.2.9. DDH and FFH ships conduct four firing exercises each and the AOR conducts CIWS. In FY 2005, Destroyer Squadron Nine ships conducted a preventive maintenance CIWS test fire, called a pre-action calibration firing (PACFIRE). Two hundred and fifty rounds of 20 mm were expended.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUNEX (S-A)</td>
<td>3.2.7</td>
<td>W-237/OPAREA</td>
<td>Ops</td>
<td></td>
<td>72</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>72</td>
</tr>
</tbody>
</table>

Future Activities and Considerations: Very few surface operations are conducted in the PACNW OPAREA because of inclement weather, rough water, and the transit distance from port to the open ocean OPAREA. U.S. Navy operations are expected to continue at the current level. The Canadian Fleet now has air target towing services available and their OPAREAS have been approved for surface-to-air missile (SAM) and anti-aircraft missile (AAM) exercises as well as air-to-surface strikes. With these changes, the Canadian Fleet usage of the PACNW OPAREA is expected to decline.

### 3.2.17 Marksmanship (NTA 3.2.8) (AFT 1.1.1)

This training involves the live-firing of weapons at targets of either known or unknown distances. EODMU-11 and EODMU-17 conduct small arms qualification/proficiency training weekly at the small arms range next to Ault Field. In FY 2004, EOD personnel fired approximately 12,000 rounds of 5.56 mm, 15,000 rounds of 9 mm, and 810 12-gauge shotgun rounds. The Air Force Reserve 304th Rescue Squadron also conducted small arms training three times on the Boardman range in FY 2004.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marksmanship</td>
<td>3.2.8</td>
<td>NASWI Small Arms Range</td>
<td>Ops</td>
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<td>52</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>52</td>
</tr>
<tr>
<td>1.1.1</td>
<td></td>
<td>Boardman Ops</td>
<td>Ops</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>Ops</td>
<td></td>
<td>52</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>55</td>
<td></td>
</tr>
</tbody>
</table>

Future Activities and Considerations: The Oregon National Guard (ORNG) is proposing to construct and operate two new live-fire weapons training ranges at the NWSTF Boardman. One of the ranges is a multipurpose machine gun range (MPMGR) and the other is a multipurpose training range (MPTR). The MPMGR would be used to train soldiers in the use of various small arms, up to and
including .50 caliber rifles and machine guns. The MPTR would be used to train soldiers on foot and in vehicles in the use of various vehicle-mounted and ground-deployed weapons, including small arms up to .50 cal, 25 mm cannons, 40 mm grenade launchers, TOW missiles, and 120 mm tank guns. The range might also be used for training helicopter gunnery crews using 5.56 mm and 7.62 mm caliber machine guns.

A draft EA for the proposed project was recently completed and construction is expected to begin in 2007. Once the ranges become operational, the ORNG anticipates weekend use of the ranges year-round for unit inactive duty training (IDT) as well as for unit annual training (AT) on an as-needed basis. Approximately 4,000 soldiers would be expected to use the new ranges annually. Accordingly, operations are expected to increase.

### 3.2.18 Night Vision Goggle (NVG) Low-Level Training and Air-to-Ground Gunnery Exercise (GUNEX) (ART 2.5.4/2.5.5)

Low-level flying under the cover of darkness provides a haven from a variety of anti-aircraft weapons. A rotary wing aircrew’s capability to conduct low-level night operations diminishes the chance of detection and increases the probability of surprise. Aviation battalions from the Oregon National Guard and Army National Guard, flying CH-47 or H-60 helicopters, conduct NVG low-level training and door gunner training at Boardman. Either 7.62 mm or .50 caliber rounds are fired during the door gunner training exercise.

<table>
<thead>
<tr>
<th>Operation</th>
<th>ART</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>GUNEX (A-G)</td>
<td>2.5.4/2.5.5</td>
<td>Boardman Ops</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

Future Activities and Considerations: The plans for constructing an MPTR described in Section 3.2.17 may provide an additional area in which helicopter gunnery crews may train. Once the new range is completed, operations are expected to increase.

### 3.2.19 Research, Development, Test, and Evaluation (RDT&E) Operations

NUWC Division, Keyport, provides test and evaluation, depot maintenance and repair, in-service engineering, and Fleet readiness and industrial support for torpedoes and other undersea warfare systems including mobile mines, unmanned undersea vehicles, countermeasures, and sonar systems. To support these activities, NUWC Keyport maintains and operates three underwater, three-dimensional tracking range sites with the capability to conduct in-service testing and evaluation of undersea weapons. They include the DBRC range, Quinault Range Site, and Nanoose Range Site.
3.2.19.1 Submarine Post-Refit Sea Trials

NBK Bangor-based Trident submarines use the DBRC 26 times per year for post-refit sea trials. The submarines use the acoustical range to detect unusual, self-generated noise that would require correction before conducting submerged operations at sea. The Canadian Armed Forces Victoria Class submarines use the Nanoose Range Site for similar trials. Post-refit sea trials can last from one to five days, but one day is most typical. Following this maintenance and trial period, the submarine goes to the offshore OPAREA for training prior to deployment.

<table>
<thead>
<tr>
<th>Operation</th>
<th>NTA</th>
<th>Area</th>
<th>Metric</th>
<th>Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Refit Sea Trials</td>
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<td>DBRC Ops</td>
<td></td>
<td></td>
<td>26</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>26</td>
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<td></td>
<td></td>
<td>Nanoose Range Site Ops</td>
<td></td>
<td></td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>Ops</td>
<td></td>
<td></td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>32</td>
</tr>
</tbody>
</table>

Future Activities and Considerations: Two SSGN submarines will be added to the current fleet of eight SSBNs in FY 2006. The SSGNs will be homeported at NBK Bangor with a crew of 200 each. With this addition, the number of submarine post-refit trials is expected to increase 25 percent from 26 to 33 per year.

3.2.19.2 Torpedo and Experimental Vehicle Testing

NUWC Nanoose Range Site and DBRC have sophisticated underwater tracking systems that provide ideal environments for torpedo and experimental vehicle testing. Common tests include weapons system readiness tests and radiated noise measurement tests. These operations are primarily sponsored by Naval Sea Systems Command (NAVSEA) and involve Fleet assets about 50 percent of the time.

Torpedo tests are conducted for both heavyweight (MK-48) and lightweight (MK-54) torpedoes. In FY 2004, approximately 111 heavyweight torpedo tests were conducted, 58 of which involved SSN and surface ships as simulated targets. A total of 64 lightweight torpedo tests occurred, 39 of which involved P-3 aircraft or surface ship launches.

Experimental vehicles are used to test various technologies such as sonar systems or guidance components. Forty-four experimental vehicles were tested in FY 2004, 19 of which were tested against surface ships (13) and submarines (6). Surface ships included guided-missile destroyers (DDG), guided-missile frigates (FFG), and fast combat support ships (AOE).
Future Activities and Considerations: Torpedo and experimental vehicle test operations are expected to continue at the current level.

### 3.2.19.3 Unmanned Undersea Vehicle Operations

UUVs extend the knowledge and control of undersea battlespace through the employment of clandestine off-board sensors. Launched from submarine torpedo tubes, UUVs search for mines and other underwater threats allowing SSNs to safely gain access to high-risk areas such as extremely shallow water, poor acoustic conditions, or mine infested waters. The unique capabilities of UUVs extend the reach of submarines while reducing the risk to a SSN and its crew.

The NUWC Division, Keyport, is the home of the National UUV Test and Evaluation Center (NUTEC) and provides comprehensive testing and training for UUV programs and the Fleet. UUV operators at Keyport are trained in mine countermeasures, intelligence collection, and submarine launch/recovery operations. The DBRC range also provides a valuable freshwater runoff area for UUV buoyancy training. In FY 2004, 33 UUV operations occurred at DBRC.

<table>
<thead>
<tr>
<th>Operation</th>
<th>N/A</th>
<th>Metric Qualification</th>
<th>Unit Training</th>
<th>Integrated</th>
<th>Sustainment</th>
<th>Other Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UUV Exercises</td>
<td>N/A</td>
<td>Keyport Range Site</td>
<td>Ops</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBRC</td>
<td>Ops</td>
<td>33</td>
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<td>0</td>
<td>33</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>N/A</td>
<td>Ops</td>
<td></td>
<td>33</td>
<td>0</td>
<td>0</td>
<td>33</td>
</tr>
</tbody>
</table>

Future Activities and Considerations: NUWC Keyport hosted the Autonomous Underwater Vehicle (AUV) Fest in August 2003 and June 2005. AUV Fests facilitate the transition of AUV/UUV technologies to operational use through in-water demonstrations of emerging AUV/UUV systems. More than 30 vehicle systems from 18 organizations participated in AUV Fest 2005 making it the largest AUV in-water test and demonstration event ever conducted. At this time, NUWC Keyport is not expecting to host future AUV Fests, but it could occur as often as every other year.
The Navy is updating its blueprint for future UUV operations to reflect recent changes in military strategy. The revised plan will emphasize joint-service operations and interoperability between UUVs and conventional ships. The introduction of the Littoral Combat Ship (LCS) in 2007 will greatly impact UUV operations as they are anticipated to be one of the future UUV primary carriers. Other program changes include a reconfigurable Long Range Mine Reconnaissance System (LMRS) UUV by 2009 and an analysis of alternatives for a large displacement UUV for submarine track and trail missions. As UUV systems continue to evolve and mature, operations at NUWC Keyport are expected to increase. Areas outside of NUWC Keyport, such as Admiralty Bay, Lake Hancock, Crescent Harbor, Navy 3, and Navy 7, should also be considered for supporting UUV training.

NUWC Keyport will continue to develop new UUV-specific T&E capabilities to meet UUV program and Fleet user requirements. An environmental impact statement (EIS)/overseas environmental impact statement (OEIS) is being prepared for the extension of the NAVSEA Keyport Range Complex. In addition, the newly constructed Capability Technical Engineering Center will allow for real-time display of UUV operations to be sent to off-site locations. NUWC Keyport’s goal is to continually improve UUV T&E and training support capabilities to help advance UUV development and accelerate their operational deployment in the Fleet.

3.2.20 Additional Navy and Army Tactical Tasks

The following figures reflect Navy and Army tactical tasks (NTAs and ARTs) that were not conducted in FY 2004 but have been supported or will likely be supported by the NWTRC in the next ten years. These figures have been included to provide a full comprehensive picture of the NWTRC capabilities.

<table>
<thead>
<tr>
<th>Navy Tactical Task</th>
<th>NTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deploy/Conduct Maneuver</td>
<td>1.0</td>
</tr>
<tr>
<td>Conduct Hydrographic Surveys</td>
<td>1.2.3</td>
</tr>
<tr>
<td>Conduct Breaching of Minefields, Barriers, and Obstacles</td>
<td>1.3.2</td>
</tr>
<tr>
<td>Transit Mine Threat Area</td>
<td>1.3.2.3</td>
</tr>
<tr>
<td>Conduct Mining</td>
<td>1.4.1</td>
</tr>
<tr>
<td>Conduct an Amphibious Raid</td>
<td>1.5.2.4</td>
</tr>
<tr>
<td>Employ Firepower</td>
<td>3.0</td>
</tr>
<tr>
<td>Conduct Non-lethal Engagement</td>
<td>3.2.9</td>
</tr>
<tr>
<td>Protect the Force</td>
<td>6.0</td>
</tr>
<tr>
<td>Perform Combat Search and Rescue (CSAR)</td>
<td>6.2.4</td>
</tr>
</tbody>
</table>

*Figure 3-2. Additional Navy Tactical Tasks*
<table>
<thead>
<tr>
<th>Army Universal Task</th>
<th>ART</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence</td>
<td>1.0</td>
</tr>
<tr>
<td>Conduct Tactical Reconnaissance</td>
<td>1.3.3</td>
</tr>
<tr>
<td>Conduct Surveillance</td>
<td>1.3.4</td>
</tr>
<tr>
<td>Maneuver</td>
<td>2.0</td>
</tr>
<tr>
<td>Employ Combat Patrols</td>
<td>2.2.3</td>
</tr>
<tr>
<td>Conduct Counter Ambush Actions</td>
<td>2.2.4</td>
</tr>
<tr>
<td>Conduct Passage of Lines</td>
<td>2.2.8</td>
</tr>
<tr>
<td>Navigate One Point to Another</td>
<td>2.2.10</td>
</tr>
<tr>
<td>Conduct Pickup Zones Operations</td>
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<td>Conduct Air-To-Surface Attack</td>
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<td>Exercise Command and Control</td>
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<td>Overcome Barriers/Obstructions/Mines</td>
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<td>Construct, Employ, or Detonate Obstacles</td>
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<td>Construct Individual Fighting Positions</td>
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<td>Assault an Objective</td>
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<td>Conduct a Raid</td>
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<td>Clear Enemy Forces</td>
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<td>Conduct an Exfiltration</td>
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<td>Occupy an Area</td>
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<td>Seize an Area</td>
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**Figure 3-3. Additional Army Universal Tasks**
The operations summary is a combination of all the training events described in this chapter as occurring in the NWTRC in FY 2004. The operations data strips are summarized and presented in Figure 3-4.

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<th>Area</th>
<th>Data Metric</th>
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**Figure 3-4. Northwest Training Range Complex Operations—FY 2004**
4 ENVIRONMENTAL, NATURAL RESOURCES, AND LAND USE MANAGEMENT

This chapter inventories the existing compliance programs, permits, plans, studies, and mitigation measures associated with the “at-sea,” estuarine, airspace, and land Navy training areas of the Northwest Training Range Complex (NWTRC). For consistency purposes, discussions generally begin with the “at sea” areas, and then proceed to near shore/on-land training areas and airspace ranges. Naval Undersea Warfare Center (NUWC) Keyport ranges will be grouped together for discussion purposes. Finally, Explosive Ordnance Disposal (EOD) ranges and Naval Special Warfare (NSW) ranges will be discussed as a group.

NSW training takes place at a variety of facilities. Therefore, installation-related information has been included to the extent that it provides the environmental framework within which NSW and other Navy operations and training occurs.

4.1 OPERATIONS AND ENVIRONMENTAL/RESOURCE STEWARDSHIP

Environmental stewardship is a key component for range sustainability. The purpose of environmental stewardship is to responsibly manage resources for the benefit of present and future generations. Conducting required training operations, while at the same time meeting regulatory requirements and minimizing environmental impacts, is a goal that will ensure the sustainability of the NWTRC. Meeting this goal will promote both operational and environmental sustainability.

Within the NWTRC, the Navy operates on a variety of ranges which it owns and maintains environmental responsibility. NAS Whidbey Island Environmental Department manages operational environmental issues related to:

- Airspace ranges to include Military Operating Areas (MOAs), Warning Areas, Restricted Areas, and Alert Areas
- Military Training Routes (MTRs)
- Naval Weapons Systems Training Facility (NWSTF) Boardman
- Land and sea ranges at Seaplane Base, NAS Whidbey Island, Outlying Landing Field (OLF) Coupeville, Lake Hancock, Crescent Harbor, Admiralty Bay Mining Range, Navy 3, etc.

Technical support is also provided by the Naval Facilities Engineering Command Northwest (NAVFAC NW). The Oregon Army National Guard (ORARNG) conducts its own environmental studies for their proposed range construction/operation at NWSTF Boardman with review and approval authority remaining with NAS Whidbey Island. NUWC Keyport manages environmental issues for all NUWC Keyport ranges including: Quinault Range Site, Keyport Range Site, and the Dabob Bay Range Complex. NUWC Keyport
also uses the Nanoose Range Site, but since this is a Canadian-owned range, environmental issues are managed by the Canadians. U.S. Navy environmental compliance at the Nanoose Range Site is governed by an International Agreement between the U.S. and Canada. Appendix E provides the initial points of contact (POCs) for operations-related environmental issues.

Environmental compliance, planning, and resource management responsibilities vary depending upon the nature and location of the action. Following is a discussion of the responsibilities of operational commanders at the PACNW OPAREA and NWSTF Boardman.

**Pacific Northwest (PACNW) Operating Area (OPAREA) (unit training operations)**

Operational Commanders (ship and squadron commanders) bear ultimate responsibility for complying with environmental requirements at sea. Each commander must:

- Ensure unit personnel understand and comply with Navy instructions and range Standard Operating Procedures (SOPs) that will ensure compliance with environmental requirements and the Navy’s At-Sea Policy, and
- Incorporate Protective Measures Assessment Protocols (PMAP) into mission planning for relevant unit level training conducted in the PACNW OPAREA, and document compliance as required.

**NWTRC Land Ranges-Naval Weapons Systems Training Facility (NWSTF) Boardman**

Operational Commanders (unit commanders who oversee specific Navy operations) are responsible for understanding and complying with Navy instructions, base regulations, and range SOPs that will ensure compliance with environmental requirements. Specifically, each commander must:

- Ensure unit personnel receive required environmental training;
- Maintain coordination with the Commander, Navy Region Northwest’s Environmental Office; and
- Implement actions to improve the Navy’s environmental performance.

4.2 **ENVIRONMENTAL COMPLIANCE**

4.2.1 **Environmental Compliance Laws, Regulations, and Executive Orders.**

Environmental compliance typically refers to those environmental media areas that have specific regulatory and/or permit requirements that condition or limit operations. Volume I of this RCMP outlines the environmental compliance laws, regulations, and executive
orders (EOs) generally applicable to each of the Navy’s range complexes. This section details the state and local environmental compliance requirements that are specifically applicable to training areas within the NWTRC. Three states are included in the discussion: Washington, Oregon, and Alaska. Compliance with the traditional environmental planning-type requirements, such as the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. §4321 et. seq.), EO 12114 (“Environmental Effects Abroad of Major Federal Actions”), and the Coastal Zone Management Act (CZMA) (16 U.S.C. §1451) are discussed in Section 4.3, Environmental Planning.

4.2.1.1 Air Quality

Achieving Clean Air Act (CAA) (42 U.S.C. §§7401-7642) standards is the responsibility of the states, which must develop state implementation plans (SIPs) that outline to the United States Environmental Protection Agency (EPA) how each state will achieve and maintain the standards. SIPs implement CAA programs at the state and local level, such as the:

- Title V operating permit,
- New source performance standards,
- New source review, and
- National emission standards for hazardous air pollutants (NESHAP).

States may require pollution control and prevention measures that are more stringent than those mandated by the EPA, but may not allow measures that are less stringent. The Navy must comply with the requirements of federal, state, interstate, and local air pollution control regulations.

Statutory air quality authorities for the three states within the NWTRC are listed below.

**Washington Department of Ecology**

Washington’s Department of Ecology (or more commonly referred to as “Ecology”) manages the state’s Air Quality Program. Under this management umbrella, air quality in most areas of the state of Washington is protected by seven local air quality agencies (established under RCW Chapter 70.94). Tribes protect and have authority over their tribal lands. For example, ranges in the Puget Sound area are within the jurisdiction of the Puget Sound Clean Air Agency, the Roosevelt MOAs are within the jurisdiction of the Ecology’s Eastern Regional Office, the Okanogan MOAs are within the jurisdiction of the Ecology’s Central Regional Office, the Darrington OPAREA and the ranges on Whidbey Island are under the jurisdiction of the Northwest Clean Air Agency, and the Olympic MOAs and the proposed extended Quinault Range Site are within the jurisdiction of the Olympic Region Clean Air Agency.
There are 26 tribal reservations in Washington. As noted previously, management of air quality on reservations is within the authority of the tribe in ownership. However, the CAA authorizes the EPA to issue regulations specifying the provisions of the CAA for which Indian tribes may be treated in the same manner as states. All tribal CAA programs submitted to the EPA for approval must meet the applicable CAA requirements for that program. Tribes will have the same authority as states do under the CAA to impose more stringent requirements. The rule also lays out a strategy for federal implementation of the CAA in Indian nations when tribes choose not to implement their own CAA programs. The NWTRC MOAs and Darrington OPAREA overlie several Native American reservations.

The Washington Clean Air Act is set forth in RCW Chapter 70.94. The Washington State Implementation Plan for Air Quality is set forth in WAC 173-400 through 492. The EPA has designated 13 areas in Washington State as nonattainment. The current status of the 13 areas in Washington State designated as nonattainment areas is as follows:

**Ozone**: Puget Sound (King, Pierce and Snohomish Counties) and Vancouver (Clark County) are maintenance areas.

**Particulate Matter (PM₁₀, PM₂.₅)**: Thurston County, Tacoma Tidelfats, Kent Valley, and Seattle Duwamish are maintenance areas. Spokane, Yakima, and Wallula are nonattainment areas, but are in the process of developing maintenance plans.

**Carbon Monoxide**: Puget Sound (King, Pierce and Snohomish Counties), Yakima, and Vancouver (Clark County) are maintenance areas. Spokane is a nonattainment area.

The Oregon Department of Environmental Quality (DEQ)

The DEQ Air Quality Division monitors air quality to ensure that the whole state meets and maintains national air quality health standards. Oregon Air Quality regulations are set forth in Oregon Revised Statutes (ORS) Chapter 468A. As referenced in Oregon Administrative Rules (OAR) – Chapter 340-200-0040, Oregon’s federally approved State Implementation Plan is contained in Volumes 2 and 3 of OR Air Quality Control Program.

The current status of the areas in Oregon designated as nonattainment areas is as follows:

**Ozone**: Portland Air Quality Maintenance Area (Maintenance).

**Particulate Matter (PM₁₀)**: Grants Pass Urban Growth Boundary (Maintenance), Klamath Falls Urban Growth Boundary (Maintenance), Eugene-Springfield Urban Growth Area (Non-Attainment), La Grande Urban Growth Boundary
(Non-Attainment), Lakeview (Non-Attainment); Medford-Ashland (Attainment-Pending EPA Approval), Oakridge Urban Growth Boundary (Non-Attainment).

**Carbon Monoxide:** Portland (Maintenance); Eugene-Springfield (Maintenance), Grants Pass Central Business District (Maintenance), Klamath Falls Urban Growth Boundary (Maintenance), Medford Urban Growth Boundary (Maintenance), Salem-Keizer Area Transportation Study (Non-Attainment).

### The Alaska Department of Environmental Conservation (DEC)

The Federal Clean Air Act and state law in Title 44, Chapter 46, and Title 46, Chapter 3 and Chapter 14 establish the duties of the DEC Division of Air Quality for controlling and mitigating air pollution and for conserving the clean air that is enjoyed in most locations of Alaska. The DEC Division of Air Quality services are designed around three programs: 1) managing non-point and mobile sources of air pollution; 2) managing stationary out-of-stack discharges of air pollution through a permit and compliance program; and 3) field air monitoring to measure progress and gather data pertaining to air quality issues.

Alaska air quality regulations are found in Title 18 Alaska Administrative Code (AAC) Chapter 50. The purpose of the regulations is to identify, prevent, abate, and control air pollution in a manner that meets the purposes of Alaska Statutes (AS) 46.03, AS 46.14, and 42 U.S.C. §7401 - 7671q (Clean Air Act). Alaska has no non-attainment areas for carbon monoxide, nitrogen dioxide, ozone (1 hour), ozone (8 hour), fine particulate matter (<2.5 micrometers), sulfur dioxide, or lead. Two areas (Anchorage Municipality and Juneau City and Borough) are in non-attainment for coarse particulate matter (<10 micrometers). There are no monitoring stations for criteria air pollutants on Kodiak Island. Air quality on Kodiak Island continues to be affected by volcanic eruptions on Mt. Augustine. These eruptions emit ash, which can affect those with existing respiratory ailments.

#### 4.2.1.2 Water Quality

The Federal Water Pollution Control Act (33 U.S.C. §1251 et. seq.), also known as the Clean Water Act (CWA), requires each state to establish water quality standards for its surface waters based on designated uses. For “impaired” water bodies, each state is supposed to develop total maximum daily loads (TMDLs), which are the amount of pollutants that can be assimilated by a body of water without exceeding the water quality standards. Based on the developed TMDLs, the state or EPA can limit any discharge of pollutants to a level sufficient to ensure compliance with state water quality standards.
The 1996 amendments to the Safe Drinking Water Act (42 U.S.C. §300 et. seq.), Section 1447(a), provide that federal agencies “1) owning or operating any facility in a wellhead protection area; 2) engaged in any activity at such facility resulting, or which may result, in the contamination of water supplies in any such area; 3) owning or operating any public water system; or 4) engaged in any activity resulting, or which may result in underground injection which endangers drinking water” shall be subject to and comply with all substantive and procedural federal, state, interstate, and local requirements to the same extent as any person.

Statutory water quality authorities for the three states within the NWTRC are contained in the following agencies and regulations.

**Washington**

Regulations for Water Pollution Control are found in RCW Chapter 90.48. The policy statement of this Chapter states in part, “The state of Washington in recognition of the federal government's interest in the quality of the navigable waters of the United States, of which certain portions thereof are within the jurisdictional limits of this state, proclaims a public policy of working cooperatively with the federal government in a joint effort to extinguish the sources of water quality degradation, while at the same time preserving and vigorously exercising state powers to ensure that present and future standards of water quality within the state shall be determined by the citizenry, through and by the efforts of state government, of the state of Washington (RCW 90.48.010).”

Ecology is designated as the State Water Pollution Control Agency for all purposes of the federal CWA (RCW 90.48.260). With regard to the national estuary program established by Section 320 of the CWA, Ecology exercises its responsibility jointly with the Puget Sound water quality authority. Program elements authorized in RCW 90.48.260 may include, but are not limited to: (a) Effluent treatment and limitation requirements together with timing requirements related thereto; (b) applicable receiving water quality standards requirements; (c) requirements of standards of performance for new sources; (d) pretreatment requirements; (e) termination and modification of permits for cause; (f) requirements for public notices and opportunities for public hearings; (g) appropriate relationships with the Secretary of the Army in the administration of his responsibilities which relate to anchorage and navigation, with the administrator of the EPA in the performance of his duties, and with other governmental officials under the federal CWA; (h) requirements for inspection, monitoring, entry, and reporting; (i) enforcement of the program through penalties, emergency powers, and criminal sanctions; (j) a continuing planning process; and (k) user charges.
Washington’s Puget Sound Water Quality Management Plan calls for the preparation and implementation of watershed action plans to control and prevent nonpoint source pollution and to protect the beneficial uses of water. An action plan was drafted for the Liberty Bay/Miller Bay Watershed Area, which includes Naval Undersea Warfare Center (NUWC) Keyport and Subase Bangor (Liberty Bay/Miller Bay Watershed Management Committee 1994).

Superfund sites at NUWC Keyport were identified as threats to water quality. NUWC Keyport was listed on the EPA’s National Priorities List in October 1989. As a result of the initial assessment study, six areas of contamination were recommended for further investigation: Area 1 (Keyport Landfill), Area 2 (Van Meter Road Spill/Drum Storage Area), Area 3 (Otto Fuel Leak Area), Area 5 (Sludge Disposal Area), Area 8 (Plating Shop Waste/Oil Spill Area), and Area 9 (Liberty Bay shorelines). NUWC Keyport was organized into two operable units (OUs). OU 1 includes the Keyport Landfill (Area 1) and OU 2 contains the other five areas (Areas 2, 3, 5, 8, and 9). Subase Bangor also has Superfund sites (See Section 4.2.5.1 for details).

Oregon

DEQ is the state agency responsible for protecting Oregon’s surface waters and groundwater to keep these waters safe for a wide range of uses, such as drinking water, recreation, fish habitat, aquatic life, and irrigation. DEQ’s Water Quality Program accomplishes this in many ways by:

- Developing water quality standards for Oregon's waters.
- Monitoring water quality with regular sampling of more than 50 rivers and streams in the 18 designated river basins found in Oregon.
- Regulating over 1,000 sewage treatment systems and approximately 200 industrial dischargers through individual permits that set limits on pollutants discharged. In addition, approximately 1,000 facilities have general permits that limit discharges and over 1,900 facilities are covered by storm water general permits.
- Regulating injection systems through a registration process and, when necessary, by issuing permits to protect groundwater.
- Inspecting septic system installations and working with local agencies to streamline this process.
- Helping public drinking water systems implement plans to protect drinking water.
- Offering low cost loans to public agencies and grants to different entities to help fund improvements to water quality.
- Controlling nonpoint sources of pollution (diffuse or unconfined sources of wastes or contaminants that are conveyed to surface water or groundwater) by maintaining a
plan that describes how the state intends to manage nonpoint sources.

Water Quality program rules have been adopted by the Environmental Quality Commission (EQC) as part of Oregon Administrative Rules (OAR) Chapter 340. A list of these rules follows in Figure 4-1:

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<td>NPDES and Water Pollution Control Facility (WPCF) Permits</td>
<td>Division 56</td>
<td>In-stream Water Rights</td>
</tr>
<tr>
<td>Division 46</td>
<td>Deposit of Motor Vehicle Bodies into Waters of the State</td>
<td>Division 71</td>
<td>Onsite Sewage Disposal</td>
</tr>
<tr>
<td>Division 48</td>
<td>Certification of Compliance with Water Quality Requirements and Standards</td>
<td>Division 73</td>
<td>Onsite Construction Standards</td>
</tr>
<tr>
<td>Division 49</td>
<td>Certification of Wastewater System Operator Personnel</td>
<td>Division 141</td>
<td>Oil Spill Contingency Planning and Fees</td>
</tr>
<tr>
<td>Division 50</td>
<td>Land Application of Domestic Wastewater Treatment Facility Biosolids, Biosolids Derived Products, and Domestic Septage</td>
<td>Division 142</td>
<td>Oil and Hazardous Materials Emergency Response Requirements</td>
</tr>
</tbody>
</table>

Figure 4-1. Oregon Water Quality Rules

In 2004, a Preliminary Assessment/Site Inspection (PA/SI) was performed to determine the presence of perchlorate, nitrogen-based explosive compounds and metals on the Boardman Air Force Range (AFR) Formerly Used Defense Site (FUDS) located near Boardman, Oregon. The property is located adjacent to and west of NWSTF Boardman, a primary range in the NWTRC. The work was performed in cooperation with the Oregon Department of Environmental Quality (DEQ) who is assisting the EPA in the site assessment.

The Boardman AFR FUDS is an inactive former bombing range located near the northern Oregon border, approximately five miles west of Boardman. Of the original 95,986 acres used as a bombing range...
range, only the eastern half (approximately 47,982 acres) is currently
the active NWSTF Boardman owned and operated by the
Department of Navy. The western half of the site is the inactive
bombing range (FUDS portion), which was the focus of the PA/SI.

Study results from the Boardman AFR FUDS were issued in July
2005, and detected low concentrations of perchlorate in surface
water and groundwater. The highest concentration detected to date is
30 ppb in a monitoring well only used for testing groundwater
conditions. Three wells located at the northern edge of the AFR
FUDS detected perchlorate, but the source of the perchlorate was not
known.

DEQ and stakeholders will be working together to plan next steps
based upon the analysis of existing data, the results of an Oregon
State University (OSU) study, and new information emerging on the
national level. Further details about separate Range Sustainability
Environmental Program Assessment (RSEPA) studies conducted at
the NWSTF Boardman range are provided in Section 4.2.3.1.

Alaska

The Alaska DEC, Division of Water’s mission is to improve and
protect water quality. In keeping with this mission, the division:

- Establishes standards for water cleanliness (18 AAC 70);
- Regulates discharges to waters and wetlands;
- Provides financial assistance for water and wastewater
  facility construction, and waterbody assessment and
  remediation;
- Trains, certifies and assists water and wastewater system
  operators; and
- Monitors and reports on water quality.

According to the Draft Alaska’s 2004/2006 Integrated Water Quality
Monitoring and Assessment Report (January 2006), Kodiak Island
has a Category 5 Section 303(d) listed impaired grouping of water
bodies. Category 5 is defined as the condition in which “Water
quality standards for one or more designated uses are not attained
and the waterbody requires a TMDL or recovery plan. Category 5
waters are the Section 303(d) list of impaired waters.” The Red Lake
Anton Road Ponds were placed on the 1994 Section 303(d) list for
non-attainment of the Toxic & Other Deleterious Organic and
Inorganic Substances standard for metal. Based on a 1992
memorandum released by DEC-Kodiak Field Office, Red Lake lies
less than 200 feet from a Navy landfill. This landfill was constructed
without a liner or leachate collection system. Landfill waste, which
may include solvents, paints, used oils, and contaminated fuel,
occasionally leaches into Red Lake and two other small ponds near
Anton Road. These two ponds are highly colored by bright orange-
red iron precipitates caused by the oxidation of the leachate. Lake
sediment samples were found to contain 8.6% iron. Chemical
pollutants were documented at low levels in the lake and in the bottom sediments. DEC staff reviewed four recent reports (from 1996 & 1997). The data presented in the reports is the best available to the department and DEC concluded that: 1) Red Lake clearly appears to exceed water quality standards for iron and manganese due to human actions, 2) there are no existing controls in place to ensure that the water quality standards will be met in a reasonable time period, 3) the reports did not present any information showing levels of iron and manganese in groundwater above the landfill so there is no information showing that the abandoned landfill is not the source of these metals, and 4) although there were other parameters of concern observed in previous sampling, the available information indicates that Red Lake should only be listed for manganese and iron. Consequently, the waterbody is not listed for the debris or petroleum products pollutant parameters (Alaska DEC 2006). Though the impaired water quality stems from a Navy landfill, it does not appear that this area is located near any area which is used by the NSW cold weather training forces.

4.2.1.3 Hazardous Waste

The Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §6921 et seq. regulates the management of solid waste and hazardous waste. Congress directed the EPA, in consultation with the Department of Defense and the states, to publish regulations identifying when military munitions become hazardous waste and to develop regulations for the safe storage and transportation of such waste. In response, the EPA published the Military Munitions Rule (MMR), 62 Federal Register (FR) 6622 on 12 February 1997. Under RCRA, a state may be authorized by the EPA to regulate the management of hazardous waste and to enforce its own rules. Once authorized by the EPA, the state program operates in lieu of the federal program. In the COMNAVREG NW Area of Responsibility (AOR), all states (Alaska, Washington, Idaho, and Oregon) have been authorized by the EPA to establish and operate their own hazardous waste programs. Guidance on implementation of the MMR is found in COMNAVREG NW Instruction 8023.3 dated 3 January 2002 and the DoD Policy to Implement the EPA’s Military Munitions Rule dated 1 July 1998.

The MMR contains emergency response provisions. The COMNAVREG NW Instruction 8023.3 notes in part that EODMU ELEVEN Detachment Northwest, under OPCON of COMNAVREG NW, is assigned as the primary response detachment and responsible for providing routine and urgent EOD services throughout COMNAVREG NW AOR, with the exception of routine and urgent EOD services located within the Olympic Peninsula and associated inland waterways. That responsibility lies with EODMU ELEVEN Detachment Bangor.
Regardless of EPA-delegated hazardous waste authority, Navy facilities need to meet state hazardous waste substantive and procedural requirements under the Federal Facilities Compliance Act (42 U.S.C. §6961). These include the requirement to obtain state permits for hazardous waste management and disposal.

Statutory hazardous waste authorities for the three states within the NWTRC (Washington, Oregon and Alaska) are as follows:

**Washington**

Solid Waste Disposal is regulated pursuant to RCW Chapter 36.58. Ecology also has responsibility for the Radioactive Waste Act (Chapter 43.200 RCW), which policy statement reads, “The legislature finds that the safe transporting, handling, storage, or otherwise caring for radioactive wastes is required to protect the health, safety, and welfare of the citizens of the state of Washington. It is the purpose of this chapter to establish authority for the state to exercise appropriate oversight and care for the safe management and disposal of radioactive wastes; to consult with the federal government and other states on interim or permanent storage of these radioactive wastes; and to carry out the state responsibilities under the federal nuclear waste policy act of 1982.”


The U.S. Navy’s SUBASE Bangor (RCRA/ State ID#: WA5170027291) is one of 29 companies and/or agencies in Washington which can treat, store, dispose or recycle hazardous waste (TSDR) or process used oil. Subase Bangor provides the following services: used oil & oily materials processing; heat, chemical and mechanical processing in tank systems; used oil transporter and processor; and hazardous waste broker. Subase Bangor accepts used oil only from US Navy vessels and facilities.

**Oregon**

The DEQ is authorized by the EPA to regulate hazardous waste in Oregon. Oregon has adopted the MMR, except for the chemical munitions provisions (See Oregon Administrative Rules 340-100-0002(1)). Proper hazardous waste management is an integral part of protecting Oregon's land, air, and water systems. The DEQ strives to enforce existing environmental regulations, identify management strategies that emphasize sound science and engineering, and work in partnerships with private industry and governmental groups to provide assistance and regulatory flexibility, while at the same time reducing pollution.
A facility must notify DEQ of its activities, obtain a DEQ Hazardous Waste Identification Number, and follow all applicable Hazardous Waste Management Regulations if it is a:

- Large Quantity Generator (LQG) of hazardous waste,
- Small Quantity Generator (SQG) of hazardous waste,
- transporter of hazardous waste,
- marketer and/or burner of hazardous waste fuel,
- processor or re-refiner of used oil,
- facility collecting and accumulating used oil from used oil generators,
- marketer and/or burner of off-specification used oil,
- hazardous waste recycler,
- handler of universal wastes, or
- dry cleaner.


**Alaska**

Alaska has adopted the federal MMR by reference, and has not developed any state-specific military munitions regulations. The provisions of the MMR are regulated under the hazardous waste program. The Waste Management Division of the Alaska Department of Environmental Conservation (DEC) administers and enforces the State of Alaska’s hazardous waste regulations. Military munitions regulations for the State of Alaska are located within the state’s hazardous waste regulations. They can be found in Title 18, Chapter 62, Articles 1, 2, 3, 4, 5, and 7 of the Alaska Administrative Code (AAC).

Alaska Hazardous Waste regulations are found in the Alaska Statutes Title 46, Chapter 3 (e.g., Section 296 [Hazardous Waste Disposal], Section 299 [Hazardous Waste Regulations]; and Section 308 [Transportation of Hazardous Waste], and in Chapter 9 [Hazardous Substance Release Control].

### 4.2.1.4 Petroleum, Oils, and Lubricants (POL) Management

The Oil Pollution Act of 1990 (33 U.S.C. §2701 *et. seq.*) preserves state authority to establish laws governing oil spill prevention, response, and periodic drills and exercises. Statutory POL management authorities for the three states within the NWTRC are set forth below:

**Washington**

Ecology manages the Washington Spill Prevention, Preparedness, and Response Program. The mission of the program is to protect Washington’s environment, public health, and safety through a
comprehensive spill prevention, preparedness, and response program. The program focuses on preventing oil spills to Washington waters and land and ensuring effective response to oil and hazardous substance spills whenever they occur.

The harm caused by oil spills in the late 1980s and early 1990s aroused public concern and resulted in state and federal legislation to protect the environment and human health from such spills. Specific Washington laws include:

- Chapter 90.56 RCW, Oil and Hazardous Substance Spill Prevention and Response
- Chapter 88.46 RCW, Vessel Oil Spill Prevention and Response
- Chapter 90.48 RCW, Water Pollution Control
- Chapter 88.40, Transport of Petroleum Products - Financial Responsibility
- Chapter 70.105 RCW, Hazardous Waste Management Act
- Chapter 70.105D RCW, Model Toxics Control Act

Oregon

Oil and hazardous material spills pose a major potential threat to Oregon's waters, air, land, and wildlife. Large volumes of oil are shipped along the Columbia River and along the coast. Hazardous materials are shipped along the highways and by rail. DEQ works with other agencies and industry to prevent and respond to spills of these materials. The applicable statutes governing oil and hazardous material spillage in Oregon are set forth in ORS 468B.300 to 468B.500.

Alaska

Alaska oil pollution control regulations are found in the Alaska Statues Title 46, Chapter 4 (Oil and Hazardous Substance Pollution Control), and Chapter 8 (Oil and Hazardous Substance Releases). Contingency plans are discussed in Chapter 4, Section 30 (Oil Discharge Prevention and Contingency Plans). For Kodiak Island there exists a Subarea Contingency Plan (SCP) (1998). The SCP supplements the Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases (the Unified Plan). The SCP, in conjunction with the Unified Plan, describes the strategy for a coordinated federal, state and local response to a discharge or substantial threat of discharge of oil or a release of a hazardous substance from a vessel, offshore facility, or onshore facility operating within the boundaries of the Kodiak Subarea of Alaska.

Northwest Area Contingency Plan

The eighth release (Change 7) of the Northwest Area Contingency Plan (NWACP) was released in February 2005. This plan serves as both the Area Contingency Plan and the Regional Contingency Plan.
for the northwest states of Washington, Oregon, and Idaho, two US Coast Guard Captain of the Port Zones (Puget Sound and Portland), and the EPA’s Inland Zone. Federal, state, tribal, and local government representatives as well as representatives from commercial, non-profit, and private concerns continue to drive this planning effort. For Washington, this document continues to function as the Washington Statewide Master Plan for oil spill and hazardous substance release response. For Oregon, the Oregon Emergency Response System Council approved the NWACP in June 1996 as the State’s oil and hazardous materials emergency response plan. (Oregon, Director of Emergency Management, 2001).

Pursuant to the National Contingency Plan (NCP; 40 CFR Part 300), area committees have been established for each area of the United States that has been designated by the President. The area committees are comprised of personnel from federal and state agencies who coordinate response actions with tribal and local governments and with the private sector. Area committees, under the coordinated direction of Federal On-Scene Coordinators (FOSC), are responsible for developing Area Contingency Plans (ACPs). Area committees are also required to work with the response community to develop procedures to expedite decisions for the use of alternative response measures.

The NCP also establishes the National Response Team (NRT) and 13 Regional Response Teams (RRTs) who are responsible for national and regional planning and preparedness activities before a response action and support to the FOSC and State On-Scene Coordinator (SOSC) when activated during a response. RRT membership consists of designated representatives from key federal response and support agencies together with affected states.

In the Northwest Area (defined as the coastal and inland zones of Idaho, Oregon, and Washington), these two groups have joined together to accomplish all planning and preparedness activities and jointly publish the NWACP. The purpose of the NWACP is:

1. To provide for orderly and effective implementation of response actions to protect the people, natural resources, and property of the coastal and inland zones of the Northwest area, including the states of Washington, Oregon, and Idaho from the impacts of a discharge or substantial threat of discharge of oil or a release or substantial threat of a release of a hazardous substance from inland and marine sources.

2. To promote the coordination of and describe the strategy for a unified and coordinated federal, state, tribal, local, potential responsible party, response contractor, response cooperative, and community response to a discharge or substantial threat of discharge of oil or a release or substantial threat of a release of a hazardous substance from inland and marine sources.
3. To be consistent with the NCP and to be adopted as the Regional Contingency Plan (RCP) and Area Contingency Plan for the northwest.

4. To provide guidance to all Facility and Vessel Response Plan reviewers and Plan holders to ensure consistency with the Area Contingency Plan.

5. To be a guidance manual for responders.

This plan is intended for use as a guideline for response actions to spill incidents and to ensure consistency in response to spills. Federal and state rules require that a Responsible Party (RP), or spiller, must be able to manage spills with a pre-designated response management organization that accommodates a unified command structure in recognition of federal, state, tribal, or local jurisdiction.

4.2.2 Environmental Compliance Documentation for Operations “At Sea”

Most environmental compliance laws, such as the CAA, CWA, and RCRA, do not have jurisdiction over Navy operations beyond 3 nautical miles (NM). However, the jurisdiction of some environmental compliance laws does extend into the global commons up to the point of another country’s Exclusive Economic Zone (EEZ). Some of these compliance laws include the Marine Mammal Protection Act (MMPA) (16 U.S.C. §1361), Endangered Species Act (ESA) (16 U.S.C. §35), and the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. §1801). See Section 4.2.3.6 for a discussion of ESA, MMPA and MSA compliance.

Data collection efforts in connection with this RCMP revealed that there is limited compliance documentation available for “at-sea” areas, such as the Pacific Northwest Ocean Surface/Subsurface Operating Area (OPAREA), W-237, W-570 or W-93.

More “at-sea” environmental compliance information is likely to be forthcoming in connection with ongoing environmental planning efforts. As noted previously, the EIS/OEIS for the NAVSEA Keyport Range Complex Extension is currently being prepared. Although details of this environmental impact statement are not available at this time, further information regarding the environmental planning effort is discussed in Section 4.3. As far as environmental compliance at-sea is concerned, the EIS/OEIS is likely to cover compliance issues related to water quality, air quality, and marine biology associated with extension of the Quinault Range Site.

The presence of endangered species in W-237 is acknowledged in the 2000 range survey responses. Furthermore, according to NUWC Keyport personnel, ESA and MMPA informal consultations with NMFS are currently underway regarding the potential impacts related to the range extension in W-237 and inland water “at-sea”
Consultations were initiated during the EIS/OEIS scoping process.

4.2.3 Environmental Compliance Documentation for Operations at Estuarine and Land Ranges

Environmental compliance at land ranges and training areas within an installation, its subordinate areas, and remote sites falls within the responsibility of the Regional Commander. The Regional Commander has traditionally budgeted for environmental compliance through specific media-based programs. Funding for these programs is provided through the program objective memorandum (POM) budget process to ensure that all “must fund” projects are completed immediately for any instances of non-compliance and prior to a required implementation date for a new law or regulation.

The Northwest Region has developed and fully implemented extensive environmental compliance management programs. Among them are hazardous materials management and disposal in compliance with RCRA, NPDES permitting and outfall monitoring in compliance with the CWA, and air permitting in compliance with the CAA. Additional inland environmental compliance discussion is provided in Section 4.2.3.6.

4.2.3.1 Range Sustainability Environmental Program Assessment (RSEPA)

As required by DoD Directives 4715.11 and 4715.12, Environmental and Explosives Safety Management of DoD Active and Inactive Ranges within the United States and Abroad, the Navy has developed procedures to conduct Range Sustainability Environmental Program Assessment (RSEPA). RSEPA evaluates past, current, and future range uses, assesses the current sources and levels of contamination and the potential hazards to human health, including hazards from off-range migration of ammunition constituents, and provides a plan of action to ensure safe sustainable use and implementation of a remediation process. The requirement set forth in the 10 May 2004 update of 4715.11 related to hydrology and hydrogeology are addressed within the RSEPA process.

NWSTF Boardman and Seaplane Base EOD Demolition Training Range

Pursuant to Navy RSEPA guidance, in September 2004, a Range Condition Assessment (RCA) was completed for NWSTF Boardman, Oregon and the Seaplane Base EOD Demolition Training Range, NAS Whidbey Island, Washington. The assessment consisted of a Phase II Pre-Site Visit Information Collection Synopsis and the Phase III On-Site Information Collection and Review Synopsis. The purpose of the Phase II element was to review as much pertinent information as possible prior to conducting on-site information collection and to identify potentially applicable
Although the RSEPA guidance is explicit about the steps in the RCA process and the Decision Point One questions, other factors are present for NWSTF Boardman that are not specifically addressed. While the RCA did not indicate a potential range related source of perchlorate contamination in groundwater, regional sampling conducted by the DEQ and EPA does indicate the presence of perchlorate in groundwater throughout the Lower Umatilla Basin Groundwater Management Area. In order to validate the RCA conclusion that a perchlorate source does not exist at NWSTF Boardman, it was recommended that additional analysis be conducted (in context of a Comprehensive Range Evaluation [CRE]) using wells specifically designed and constructed to monitor groundwater quality on the site, as well as appropriate perchlorate sampling and analytical methods. Another factor that influenced the decision to undertake a CRE at the site is uncertainty that buried munitions may exist at NWSTF Boardman. Historical photographs and evidence of burial trenches at the range give reason to conduct additional data collection. The lack of adequate records and documentation of historical range activities does not allow for a conclusive understanding of the scope of all potential releases from NWSTF Boardman. Based on these considerations, the RCA recommended that NWSTF Boardman proceed to the CRE phase of the RSEPA process.

A Final CRE Phase I Report (Preliminary Screening Synopsis Decision Point Two Report) was issued for NWSTF Boardman in February 2006 (NAVFAC NW 2006). It included a series of reports consisting of an environmental protection plan, a site-specific sampling and analysis plan, quality assurance project plan, and health and safety plan. The purposes of the Preliminary Screening Synopsis and Decision Point Two Report are to summarize the CRE Phase I field sampling results, compare munitions constituent results with screening criteria, and to answer the Decision Point Two question regarding munitions constituent (MC) migration off range.

Soil samples were collected at three source areas including the Army Open Burning/Open Detonation (OB/OD) Area, the Demolition Crater Area, and the West Bomb Crater Area. Groundwater samples were collected from monitoring wells installed at three range border locations, at three Army OB/OD Area locations, and at one Demolition Crater Area location.

Only soil samples collected from the Army OB/OD Area exhibited detections of MC. Three of the five sampled segments at the Army OB/OD Area had MC detections reported, with two samples exhibiting detections above RSEPA screening levels. No soil samples indicated perchlorate contamination.
To answer RSEPA Decision Point Two ("Is there likely to be an off-range release that poses a potential risk to human health and the environment?")}, CRE data indicates that no off-range release has occurred. Perchlorate detections at the eastern border well and the northern border well are consistent with the range of perchlorate contamination found throughout the Lower Umatilla Basin Groundwater Management Area. The eastern border well also exhibited the highest nitrate concentrations. Both wells are also in areas that are adjacent to neighboring agricultural properties that use irrigation extensively. None of the potential source area wells exhibited detections of perchlorate. The CRE Phase I supports the conclusion of the Range Condition Assessment for the NWTRC: that a perchlorate contamination source does not exist at NWSTF Boardman. No HMX, RDX, or TNT was found in wells at NWSTF Boardman or to the north in the Lower Umatilla Basin Study. Based on these considerations, it is recommended that NWSTF Boardman does not proceed to the CRE Phase II of the RSEPA process (NAVFAC NW 2006). Though the CRE concluded that NWSTF Boardman is not a potential source of off-range contamination, it is noteworthy that EPA Region 10 and Oregon DEQ did not agree with this conclusion. Discussions with EPA and DEQ are planned to address this issue.

Although no environmental compliance issues were identified and the CRE phase was not recommended for the Seaplane Base EOD Demolition Training Range, it will be subject to another RCA in 5 years, along with NWSTF Boardman, in accordance with the RSEPA program.

### 4.2.3.2 Operational Range Clearance (ORC)

*Operational Range Clearance Policy for Navy Ranges* (DoN 2004) applies to clearance of munitions used for their intended purpose (e.g., munitions that have been fired, dropped, launched, projected, placed, or otherwise used) on Navy administered operational ranges, excluding water ranges and small arms ranges. The Navy has a responsibility to ensure it operates in an environmentally responsible manner that is protective of the public, while sustaining the highest levels of readiness to meet its mission requirements.

It is the policy that Navy commands and installations that administer operational ranges shall establish and maintain a program for routine clearance of impact areas and other range areas that are known, or suspected of, containing UXO and range scrap/expendable materials. Its purpose is to ensure the safety of Sailors, range operations and maintenance personnel, range clearance personnel, and the public. In accordance with the ORC policy, ORC shall be performed to the range surface, to include UXO and range scrap/expendable materials that are exposed and partially buried. Subsurface UXO removal should be performed only as required (e.g., at construction work sites.
in the target area, on surface routes used by range personnel to egress/ingress the target area, for burying cables, etc., to a depth that permits safe operations on the range).

The policy sets forth clearance guidelines for operational ranges that are programmed for continued use. These same ranges also require preparation of an ORC Plan prior to conducting the clearance operations. The policy further sets forth procedures for: clearance operations, removal and disposal/recycling of UXO and range scrap expendable materials, outreach programs, and safety. Two ORC compliance efforts occurred at NWSTF Boardman in 2005. The first of these efforts took place between March and May 2005 and was conducted by the contractor, Bearing Sea Eccotech, with support by EOD Detachment Northwest. During this initial endeavor, a total of 79 truck loads transported 1,235 tons of scrap material (which included 790 tons of processed cast, 280 tons of large scale inerts, and 165 tons of miscellaneous metal and shreddable fins) (Gila Recyclers 2005). A follow-on ORC effort was contracted in September, 2005. Eighty-four tons of Mk-76s and range scrap were removed. Other items removed included: 15 tons of BDU 48’s, 52 250-lb bombs, 499 500-lb bombs, 39 1000-lb bombs, and 3 2000-lb bombs (Bering Sea Eccotech 2005). In 2005, EOD technicians from EOD Detachment Northwest were sent as Temporary Additional Duty (TAD) to NWSTF Boardman for approximately 4-6 weeks in support of range clearance required by the ORC program (Melaas 2006).

These initial ORC efforts were considered extensive (clearing decades of range scrap) and can be seen as bringing NWSTF Boardman into compliance with the ORC policy. EODMU ELEVEN Detachment Northwest returned to NWSTF Boardman in May 2006 as part of a regularly occurring ORC schedule. Development of a formal Operational Range Clearance Plan for NWSTF Boardman is scheduled for kick off in 2007.

4.2.3.3 2000 Range Survey Results

In the year 2000, Range Survey responses were provided by NAS Whidbey Island’s environmental personnel regarding environmental issues as they applied to ranges under the authority of NAS Whidbey Island. The ranges covered in the survey included: W-237, Seaplane...
Base EOD Demolition Training Range, Crescent Harbor Underwater
EOD Range, Lake Hancock, Admiralty Bay Mining Range, and
NWSTF Boardman. Survey questions covered such topics as UXO,
endangered species, public comments, regulatory comments, and
NEPA documentation. A few of the highlights from the 2000 survey
include:

1. Up to the year 2000, Lake Hancock had been the only NAS
Whidbey Island (WI) range to have had a major range
CERCLA pursuant to a CLEAN contract). NWSTF Boardman
had several small scale clearance efforts documented in the past,
and since 2005 has had extensive range debris/UXO removal
projects, as discussed in the previous section.

2. Several of the ranges reported the possible presence of
endangered and/or threatened species including: chinook salmon,
grace whales, bald eagles, marbled murrelets, and Washington
ground squirrels.

3. Though limited subject matters have received public or
regulatory communications regarding environmental issues on
ranges, significant communication has addressed the potential
for groundwater contamination at NWSTF Boardman.
Additionally, at the Crescent Harbor Underwater EOD Range,
US Department of Fish and Wildlife and NOAA Fisheries are
engaged with the NAS Whidbey Island Environmental
Department in monitoring the impact of EOD underwater
demolition training on endangered/threatened species. A
Biological Opinion is currently being drafted in response to the
Navy’s Biological Assessment for three EOD underwater
demolition training sites in Puget Sound.

The 2000 Range Survey responses are valuable as an historical
snapshot of environmental compliance issues relevant to the
northwest Navy ranges. They form a basis of understanding
regarding how times have changed since the survey in terms of the
numbers of studies performed and the depth of knowledge of the
environmental conditions.

4.2.3.4 Air Quality Permitting

Seaplane Base EOD Demolition Training Range Air
Quality Permitting

In 1994, the Northwest Air Pollution Authority (NWAPA) issued a
letter to NASWI in response to EOD Det Northwest’s mission
requirement to respond to and provide emergency response treatment
of discharged marine markers by burning (NWAPA 1194).
NWAPA authorized these emissions conditioned on the following:

1. The marine markers will be burned as per the procedure
submitted to NWAPA at a distance 600 yards or greater from the
fenceline of the facility. Access to the burn area will be
restricted to personnel necessary for the burn.
2. The burn rate will be no greater than one marker per fifteen minutes.
3. An annual report will be submitted to NWAPA identifying the type, quantity, and weight of markers burned in the previous year. This report may be submitted at the same time as the annual emission inventory report.

The most recent report submitted by EODMU 11 is dated January 12, 2005. The report notes that 4 Mk-25 Marine Markers and 1 Mk-58 Marine Marker were disposed of using 10 Blasting Cap M-6s and 10 TH3 G900 Grenades during the year 2004 (DoN 2005).

4.2.3.5 Historical Range Use at Lake Hancock and Admiralty Bay

Lake Hancock Target Range

Historically, Lake Hancock was used for practice bombs and practice mines in addition to rockets (Woodworth and Allen, 1972). Due to the marshy conditions of the target area, any remaining ordnance is likely at depths of 5-10 feet.

According to internal Navy correspondence dated 1991, the Lake Hancock Target Range (2.75 inch rocket range) has been abandoned in place since the late 1950s to early 1960s. According to the station Initial Assessment Survey, it was swept and cleared of range expendable materials by EOD in the early 1970s. Approximately 14 tons of ordnance were cleared from the range in 1972, including Mk-23, Mk-43, Mk-76, and Mk-89 bombs, 2.25”, 2.75”, and 5” rockets. Records indicate that the range was used for inert ordnance only. In 1973 a second clearance unearthed 1.5 tons of ordnance from the range. A 1991 Trip Report by Charles Lateulere, of the Navy Ordnance Environmental Support Office, which included a description of a visit to Lake Hancock Target Range, noted that the area was removed from the NAS Whidbey Island IR program; however, its removal (prior to production of a confirmation report or site investigation) may prove to be an issue in the future. The Trip Report included the following recommendations:

1. Report the target range as excess property (per OPNAVINST 110110.10F and 11000.16A procedures).
2. Contact the U.S. Army Corps of Engineers for action under Formerly Used Defense Sites procedures.
3. Consider entry into a Cooperative Agreement with The Nature Conservancy.
4. Ensure that the deed to the range identifies the area as a former rocket range.
5. Restrict future land use.
6. Fence the entire perimeter of the range.
7. Place appropriate warning signage on perimeter fencing (per DOD Guidance DoD 6055.9STD and DoD 5160.56-M).
Admiralty Bay Mining/Bombing Range

According to a letter dated 30 November 1956 from Commander, Naval Air Bases, Thirteenth Naval District to the Chief, Bureau of Aeronautics, Admiralty Bay was recommended as a substitute mining range for the previously used Crescent Harbor site. The project was to involve the construction of two rake stations for triangulating splash points. Several 10-year leases were to be secured from Island County and the U.S. Army Corps of Engineers.

A Local Notice to Mariners dated 8 November 1972 listed R-6701 (Navy 7), which is part of the Admiralty Bay mining range (along with the Chinook A and B MOAs), as authorizing day time aircraft usage for aerial training rockets, miniature bombs, and practice mines. Ships were authorized to use the range continuously for tactical exercises, inert ordnance and small arms fire.

The 1991 Trip Report by Mr. Lateulere covered Admiralty Bay Bombing Range, as well. The report noted no range related environmental problems, but did note operational/legal issues of concern. Operational/legal issues included:
1. The Notice to Mariners entry in 33 CFR 334 does not mention that the Admiralty Bay inlet area is used for bombing.
2. The range is not listed in the Washington Coastal Zone Management Plan.

4.2.3.6 ESA, MMPA and the MSA

There are several listed species that inhabit the estuarine and land range areas of the NWTRC. The majority of these species are discussed in other sections, including Section 4.2.5.2 (Chinook salmon, chum salmon, marbled murrelet, and bull trout), Section 4.2.2.3 (Washington ground squirrels at NWSTF Boardman), and Section 4.3.3.1 (OCNMS endangered species).

Southern Resident Killer Whales. No species in the NWTRC has received as much recent attention as the killer whale (*Orcinus orca*), Southern Resident distinct population segment. These Southern Resident killer whales are composed of three pods (J, K, and L) of killer whales totaling approximately 90 individuals. Their range during the spring, summer, and fall includes the inland waterways of Puget Sound, Strait of Juan de Fuca, and Southern Georgia Strait. Figure 4-3 illustrates the proposed critical habitat for the killer whales.

The NMFS issued a Final Rule on November 18, 2005 listing the Southern Resident killer whales as endangered under the Endangered Species Act. The rules became effective on February 16, 2006. This small orca population suffers from a host of threats to its survival, including disturbance from vessels, toxins in the water, and potential limits on prey availability. The Final Rule discussed the issue of noise in the water from military sources, including mid-frequency
sonar. The NMFS noted that the Proposed Conservation Plan (see 70 FR 57565, October 3, 2005) includes conservation measures to address potential effects of sound, including military sonar. It further noted that (after February 16, 2006) federal agencies must consult on actions that may affect Southern Resident killer whales. Another possible impact on Navy operations within the Puget Sound area may include new regulations regarding vessel operation around whales and/or the creation of protected areas. This reaction stemmed from the MMPA prohibition against “takes” of marine mammals, which includes harassment (Federal Register Volume 70, No. 222, 2005). Existing agency guidelines recommend that vessel operators remain at least 100 yards away from all whales, including Southern Resident killer whales, in order to avoid a take.

Other entities have established protective measures for the Southern Resident orcas. The Washington Fish and Wildlife Commission listed the orcas as a state endangered species on April 3, 2004 (WAC 232-12-297). They are also listed as endangered under Canada’s Species at Risk Act (SARA). Canada’s Department of Fisheries and Oceans has convened a recovery team, which includes the Washington Department of Fish and Wildlife and NMFS, and has released a Draft Recovery Strategy for Southern and Northern Resident Whales under SARA.

On June 15, 2006, the NMFS published a proposed rule and request for comments in the Federal Register (Federal Register Volume 71, Number 115, pages 34571-34588) regarding the designation of critical habitat for the southern resident killer whale. The NMFS proposed three areas for critical habitat as shown in Figure 4-3: the Summer Core Area in Haro Strait and waters around the San Juan Islands (shown in light orange), Puget Sound (shown in yellow), and the Strait of Juan de Fuca (shown in green), which comprise approximately 2,564 square miles (6,641 sq km) of marine habitat. The proposed rule specifically exempted 18 DoD sites from the proposed critical habitat. Most of these sites are Navy sites and include all the applicable NWTRC range sites. According to the proposed rule, “The benefit of excluding these particular areas is that the Navy would only be required to comply with the jeopardy prohibition of ESA Section 7(a)(2) and not the adverse modification prohibition.”

The 18 exempted DOD sites include: 1) Naval Undersea Warfare Center, Keyport; 2) Naval Ordnance Center, Port Hadlock (Indian Island); 3) Naval Fuel Depot, Manchester; 4) Naval Air Station, Whidbey Island; 5) Naval Station, Everett; 6) Naval Hospital Bremerton; 7) Fort Lewis (Army); 8) Pier 23 (Army); 9) Puget Sound Naval Ship Yard; 10) Strait of Juan de Fuca naval air-to-surface weapon range, restricted area; 11) Strait of Juan de Fuca and Whidbey Island naval restricted areas; 12) Admiralty Inlet naval restricted area; 13) Port Gardner Naval Base restricted area; 14) Port Orchard Passage naval restricted area; 15) Sinclair Inlet naval...
restricted area; 16) Carr Inlet naval restricted area; 17) Port Townsend/Indian Island/Walan Point naval restricted area; and 18) Crescent Harbor Underwater EOD Range. The excluded areas are shown in black on Figure 4-3. In addition, the entire Hood Canal (and associated Dabob Bay Range Complex) is excluded from the proposed critical habitat.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA)

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance Essential Fish Habitat (EFH) for those species regulated under a Federal fisheries management plan. Pursuant to the MSA:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH (MSA section 305(b)(2));
- NOAA Fisheries must provide conservation recommendations for any Federal or state activity that may adversely affect EFH (MSA section 305(b)(4)(A));
- Federal agencies must provide a detailed response in writing to NOAA Fisheries within 30 days after receiving EFH conservation recommendations. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the Federal agency must explain its reasons for not following the recommendations (MSA section 305(b)(4)(B)).

Essential Fish Habitat consultation with NOAA Fisheries is required regarding any Federal agency action that may adversely affect EFH, including actions that occur outside EFH, such as certain upstream activities. EFH consultation objectives are to determine whether a proposed action would adversely affect designated EFH and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH.

Pursuant to the MSA the Pacific Fisheries Management Council (PFMC) has designated EFH for federally-managed fisheries within the waters of Washington, Oregon, and California. Designated EFH for groundfish and coastal pelagic species encompasses all waters from the mean high water line, and upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon and California, seaward to the boundary of the U.S. exclusive economic zone (370.4 km). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington,
Figure 4-3. Proposed Critical Habitat for the Southern Resident Killer Whales
Oregon, Idaho, and California, except areas upstream of certain impassable man-made, and longstanding, naturally impassable barriers (e.g., natural waterfalls in existence for several hundred years). In estuarine and marine areas, designated salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent of the exclusive economic zone (370.4 km) offshore of Washington, Oregon, and California north of Point Conception to the Canadian border. Detailed descriptions and identifications of EFH are contained in the fishery management plans for groundfish, coastal pelagic species, and Pacific salmon.

In Alaska, the North Pacific Fishery Management Council (NPFMC) manages EFH. On May 6, 2005, the NPFMC published a Notice of Availability of a final environmental impact statement (EIS) for Essential Fish Habitat Identification and Conservation in Alaska. The EIS is a comprehensive analysis of the effects of identifying EFH, approaches for identifying Habitat Areas of Particular Concern within EFH, and options for minimizing the effects of fishing on EFH. The NPFMC has prepared and implemented five fishery management plans (FMPs) addressing: 1) the Bering Sea/Aleutian Islands Groundfish, 2) Groundfish of the Gulf of Alaska, 3) Bering Sea/Aleutian Islands King and Tanner Crab, 4) Alaska Scallop, and 5) Salmon.

4.2.4 Environmental Compliance Documentation at NUWC Keyport Ranges

4.2.4.1 Keyport Range Site

No specific environmental compliance documentation was encountered or collected during development of this RCMP for the Keyport Range Site. However, through review of the 1996 NUWC Keyport Range Management Plan (NUWC 1996), some insight can be gained as to environmental compliance documentation at the Keyport Range Site. For example, according to the 1996 plan, NUWC Keyport has an oil and hazardous substance contingency response plan, which would apply to actions occurring at the Keyport Range Site.

4.2.4.2 Quinalt Range Site

No specific environmental compliance documentation was encountered or collected during development of this RCMP for the Quinalt Range Site.

4.2.4.3 Dabob Bay Range Complex

A Biological Assessment was prepared in conjunction with an EA for Ongoing and Future Operations at U.S. Navy Dabob Bay and Hood Canal Military Operating Areas (NAVFAC NW 2001). See Section 4.3.3.1.4 for more information regarding the EA. The BA covered an estimated 285 annual launches of various underwater
vehicle systems in Dabob Bay, the Hood Canal, and their interconnecting waters. No explosive warheads are used in these tests. Threatened and Endangered species covered included: Hood Canal summer chum salmon, Puget Sound Chinook salmon, Stellar sea lion, humpback whale, leatherback sea turtle, bull trout, coast Puget Sound, bald eagle, marbled murrelet, and the Northern spotted owl. The BA concluded that the proposed testing in the Dabob Range Complex would have no effect on marine mammals, sea turtles, or terrestrial species. It also concluded that the proposed testing in the Dabob Range Complex may affect, but is not likely to adversely affect, the aforementioned fish species. The project actions would not destroy or adversely modify proposed critical habitat, or jeopardize the continued existence of these three species.

A study prepared for NUWC Keyport by the Battelle Marine Science Laboratory in 2001 determined whether the operation of the Dabob Bay Range Complex (DBRC) has had an adverse effect on sediment and water quality (Crecelius 2001). The study involved sampling and analysis of the samples for concentrations of six metals (cadmium, copper, lithium, lead, zinc, and zirconium). The study found that concentrations of the metals in Dabob Bay were not elevated. Four of the metals were of concentrations well below state standards. Lithium was at the same concentration as that found in the ocean, and zirconium was four orders of magnitude below the lowest effect concentration for toxicity to aquatic organisms.

4.2.4.4 Nanoose Range Site

Environmental compliance by range users at Canada’s Nanoose Range Site is per an international agreement between the U.S. and Canada. The latest agreement is in the form of a Memorandum of Understanding dated 02 October 2002. The majority of the MOU covers the allocation of range time and costs between the US and Canada, but it does contain provisions governing environmental stewardship. The US and Canada are required to adopt protocols and standard procedures for prevention, response and mitigation of environmental damage. See Section 4.4.2.4 for more details.

4.2.5 Environmental Compliance Documentation at EOD and NSW Ranges

4.2.5.1 CERCLA Compliance

Bangor Site A

On July 22, 1987, Site A on Subase Bangor was listed on the U.S. Environmental Protection Agency's (EPA) National Priorities List (NPL) of hazardous waste sites. On August 30, 1990, the remainder of the SUBASE, Bangor facility was listed on the NPL.

On January 29, 1990, a cooperative three-party Federal Facility Agreement (FFA) was signed by the Navy, the EPA, and the
Washington State Department of Ecology (Ecology) for study and cleanup of possible contamination on the SUBASE, Bangor property. The potentially contaminated sites at Bangor were grouped into eight operable units based on geographic location, suspected contamination, or other factors. A separate study was conducted for each operable unit to determine appropriate cleanup actions.

On December 10, 1991, a Record of Decision was signed for Site A (Operable Unit 1) with several soil remediation and groundwater remediation steps set forth as the selected remedy. According to the site history, Site A consisted of a burn area used to detonate and incinerate various ordnance materials beginning in 1962 and continuing to 1975. The site originally consisted of 24 burn mounds and support facilities for personnel, fire equipment and trucks. An incinerator for small arms ammunition and dangerous pyrotechnic items was added between 1965 and 1970 along with a shielded blast pit used for detonation of TNT.

A portion of Site A is currently being used as the Bangor EOD Demolition Training Range. According to the 1991 ROD, periodic review will need to be conducted to ensure that the remedy continues to provide adequate protection of human health and the environment.

**Bangor Site B**

Site B at Floral Point, on Subbase Bangor was listed on the U.S. Environmental Protection Agency's (EPA) National Priorities List (NPL) of hazardous waste sites in 1990. It is located at the northern end of SUBASE, Bangor. Pyrotechnic testing was reportedly conducted both for quality assurance and for research and development during the 1950s and 1960s (U.S. Navy 1983). In 1953, Buildings 263 and 264 (now demolished) were designated for the purpose of handling and storing pyrotechnics. Various materials tested included star signals, smoke cans (aluminum types), smoke pots, and hand grenades. Black powder also was reportedly burned at Site B.

Floral Point was used for station dumping from approximately 1950 to 1968. Pit disposal, land filling, and trash burning all were reported activities during this time period. For a short duration (1966 to 1967), the site was used for open burning of Royal Demolition Explosives (RDX) and trinitrotoluene (TNT) residuals removed from the segregation facility leachate pit (U.S. Navy 1983). Garbage from Keyport also was reportedly disposed of at this location (circa 1967 to 1972).

This site is located at Floral Point, while the Floral Point Underwater EOD Range is located in the water near the point and is not a CERCLA site. It is included here for information only as a nearby environmental compliance issue.
NAVMAG Indian Island

NAVMAG Indian Island was delisted from the NPL in July 2005. Naval Magazine Indian Island (Indian Island) was included on the NPL in June 1994. The Record of Decision (ROD) for Indian Island (URS 1995b), signed in August 1995 by the Navy, EPA, and Ecology, specified remedial actions for Site 10 (Northend Landfill) and Site 21 (Building 86 Fill Area). Seven sites (Sites 11, 12, 15, 18, 19, 20, and 22) were declared in the ROD to require no further action. Sites 13, 14, 16, and 17 were determined to require no additional actions prior to the ROD and were not included in the ROD. Sites 33, 34, 35, 36, EO101, and the Hazardous Waste Storage Area (HWSA) have been identified and addressed subsequent to the ROD.

Though not co-located with any of the NPL sites, the NAVMAG Indian Island Underwater EOD Range is located offshore from Crane Point, somewhat in proximity to the former NAVMAG Indian Island NPL site. Mention of the former NPL site is included here for information purposes only as a nearby environmental compliance issue.

4.2.5.2 Biological Assessments


The Navy completed a Biological Assessment (BA) (28 December 2000) to evaluate the impact of a training program for the Navy’s Explosive Ordnance Disposal (EOD) units in the Puget Sound region. The BA included assessment of the biological environment in four locations (Crescent Harbor, Holmes Harbor, Subase Bangor, and Port Townsend Bay). Although Holmes Harbor was initially considered as a potential area for underwater demolition training operations, it has never been utilized for training and is no longer proposed for future training. The program was evaluated primarily in relation to Puget Sound Chinook salmon, and Hood Canal summer-run chum (both listed as threatened under the ESA in 1999). The BA also evaluated the EOD program impact on candidate species coho salmon and cutthroat trout. The effect of the proposed action was also addressed in relation to the listed species: Stellar sea lion, humpback whale, marbled murrelet, bald eagle, and bull trout.

This BA was supplemented and amended by BA Addenda dated 14 December 2001, which set forth determinations of effect of EOD operations on 1) Dungeness Crab populations in Crescent Harbor, 2) juvenile and adult Chinook and chum salmon and forage fish, and 3) marine mammals in Puget Sound, including harbor seal and California sea lion.
As set forth in the Conservation Measures section of the BA, EOD units currently employ practices during training exercises to reduce the potential effects of explosions on marine biota. These include:

- Surveying (via boat) within a 500-m radius of the detonation site to determine whether marine mammals are present.
- The charge is not detonated if marine mammals or birds are within distances where injury could potentially occur. The charge is detonated once the birds and mammals clear the vicinity.

Figure 4-4 below sets forth the current distances from each EOD training area to the nearest shoreline. According to the BA, juvenile chum and Chinook salmon typically migrate in the shallows along the shoreline. The noise/impulse effects (physical and behavioral) from 20-lb charges and even 5-lb charges are calculated to reach into these shallow water areas. Therefore, there is a potential for injury or mortality of juvenile salmon at all of the training sites, if detonations occur when juvenile salmon are present along the nearest shorelines.

<table>
<thead>
<tr>
<th>EOD Site</th>
<th>Distance from Training Area to Nearest Shoreline</th>
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</thead>
<tbody>
<tr>
<td>Crescent Harbor</td>
<td>580m</td>
</tr>
<tr>
<td>Port Townsend Bay (NAVMAG Indian Island)</td>
<td>580m</td>
</tr>
<tr>
<td>SUBASE Bangor (Floral Point)</td>
<td>200m</td>
</tr>
</tbody>
</table>

Figure 4-4. EOD Training Area Distances from the Nearest Shoreline

In light of the potential effects of the EOD training program on listed species and protected marine mammals, additional measures were proposed to minimize effects on these species. In correspondence (18 December 2001) from Navy Region Northwest to the NMFS and USFWS, the Navy proposed an update to the COMNAVREGNW INSTRUCTION 8027 with the following mitigation measures:

1. At the Crescent Harbor and Port Townsend Bay sites, during the juvenile migration season (March 15 to July 1 for salmon and bull trout), charges larger than 5 lb. should not be used. If it is necessary to use charges larger than 5 lb., and up to 20 lb., these charges should be detonated at least 1000 m from the nearest shoreline.

2. Maximum Net Explosive Weight (NEW) for any underwater detonation in the U.S. Navy EOD Puget Sound Training Ranges of Crescent Harbor and Port Townsend will be 20 pounds NEW.

3. Maximum NEW for any underwater detonation in the U.S. Navy EOD Puget Sound Training Ranges of Hood Canal will be 5 pounds NEW.
4. At the Hood Canal site, charges larger than one pound will not be used during the juvenile migration season (March 15 to July 1 for salmon and bull trout).

5. Thirty minutes prior to any underwater detonation, a minimum of one EOD work boat will patrol the training range for potential presence of marine mammals.
   a. Pay particular attention for any Harbor Seal or California Sea Lions known to occasionally haul out on the “haul out rocks” along the eastern shoreline of Crescent Harbor (approximately 48°17'15"N/122°34'00"W) and off Forbes Point (approximately 48°16'22"N/122°37'50"W).
   b. Per the Biological Assessment Addendum (2001), for Crescent Harbor and Port Townsend any sightings of marine mammals within a 600m radius of the underwater detonation site will cause underwater detonations to be cancelled and rescheduled. For Hood Canal site, any sightings of marine mammals within a 345m radius of the underwater detonation site will cause underwater detonations to be cancelled and rescheduled.

6. Following an underwater detonation, the site will be monitored for a minimum of fifteen minutes and the EOD Detonation Supervisor will fill out an Environmental Historical Monitoring Sheet. Once completed, the Sheet will be maintained for a historical record by each unit conducting underwater demolition operations.

7. In order to avoid possible conflicts with tribal fishing, the acting EOD unit will contact Navy Region Northwest at (360) 315-5006 prior to operations at the Crescent Harbor site. Navy Region Northwest will then notify a designated point of contact for the Skagit System Cooperative (currently Ms. Lisa Turpin, Swinomish Tribal Affairs at (360) 466-7228). If at all possible, EOD unit shall give at least 10 days prior notice.

Note: The 2000 BA listed a procedural requirement of lifting explosive charges 10 feet off the seafloor prior to detonation to reduce seafloor disturbance. Since the BA, this procedure has been eliminated with the determination that even though a charge on the bottom is more disruptive to the benthic environment, it is less disruptive of the water column, where forage fish and salmon would potentially be found. This is expected to reduce the magnitude of occasional impacts to the species of concern.

A few other significant correspondence documents are worthy of mention on this subject. In correspondence dated 28 April 2003, the CNRNW sent a letter to the USFWS and the NMFS setting forth a monitoring plan option. The monitoring plan has several objectives including the determination of ESA listed and forage fish species impacted by the EOD underwater detonation training. The detailed
monitoring plan sets forth roles and responsibilities, sampling net placement, recordation requirements, detonation procedures, sampling net recovery, numbers/species determination, sample collection procedures, protocols, and equipment to be utilized. Finally, CNRNW correspondence to NMFS and USFWS dated 2 February 2004 detailed two restoration projects in connection with the receipt of a Biological Opinion. These two projects were: 1) Restoration of the former salt marsh at Crescent Harbor marsh on the Navy’s Seaplane Base and 2) Restoration of inter-tidal beach habitat at Maylor Point in Oak Harbor at the Seaplane Base.

In 2005, NAS Whidbey Island Environmental Department staff supplied supplemental information to the USFWS regarding the effects of EOD training on marbled murrelets, details on the numbers/sizes of detonations at each site, helicopter usage for diver insertion/extraction, and two additional addenda to the Final BA dated 28 December 2002, including:

1. Addendum: The Effects of EOD Underwater Detonations on Salmon Critical Habitat (14 October 2005). The USFWS redesignated critical habitat for the Hood canal summer-run chum salmon and for Chinook salmon through a Final rule published on September 2, 2005. The Final designating critical habitat excludes Department of Defense (DoD) installations covered by an Integrated Natural Resources Management Plan (INRMP) or associated with DoD easements or right-of-ways. The EOD training area of Naval Base Kitsap at Bangor falls within these exempted zones and is thus exempted from critical habitat designation for both listed salmonid species. The EOD training areas in Port Townsend Bay and Crescent Harbor are outside of DoD easements or right-of-ways and thus fall within the critical habitat designation area, which has been defined as from the extreme high water line on shore out to no greater than 30 meters of depth at mean lower low water. Nevertheless, the Navy determined that its analysis in the BA adequately addressed the potential effects to salmon critical habitat. Its determination stands that EOD training may affect, but is not likely to adversely affect the critical habitat.

2. Addendum: The Effects of EOD Underwater Detonations on Bull Trout Critical Habitat (14 October 2005). The USFWS published the Final Rule designating critical habitat for the Coastal-Puget Sound bull trout in September 2005. The three EOD training sites (Crescent Harbor, Hood Canal, and Port Townsend) were excluded. Therefore, the Navy determined that EOD training operations will have no effect to bull trout critical habitat.

At the time of this writing, the USFWS has not yet issued a Biological Opinion.
Crescent Harbor Underwater EOD Range

The Crescent Harbor Underwater EOD Range is located in the eastern portion of Crescent Harbor to the west of Polnell Point. Water depths in the range area vary from approximately 40 feet to 90 feet. Underwater detonation training involves detonation of charges both on the bottom and at or near the surface. Charges are detonated approximately 1000 yards from shore areas. At the request of CNRNW, EODMU-11 has implemented a self-imposed normal use limit of 2.5 lbs NEW to help mitigate the impact of underwater demolitions training. 2.5 lbs is the standard charge size currently being used, but up to 20 lbs NEW is technically authorized. The explosive used is C-4 (MIL-C-45010A), composed of approximately 91 percent RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine) and 9 percent polyisobutylene. Approximately 52 detonations take place per year. To help assess impact of operations and to facilitate mitigation, underwater demolition operations are monitored by the NAS Whidbey Island Environmental Department. Department personnel operate out of an installation small boat and monitor density patterns prior to demolition operations. Immediately following detonations, the area is surveyed for fish kills, with species identification and approximate counts taking place. Prior to detonations, the range area is also surveyed for marine mammals. Operations are postponed or cancelled if marine mammals are present or if unusually large fish densities are observed.

Crescent Harbor was used during the period 1951-1961 by P2 and P3 patrol aircraft for dropping unknown quantities of practice bombs, practice mines and smoke lights (Woodworth and Allen, 1972). The record notes that no clearance operation was planned.

Floral Point Underwater EOD Range

Just offshore from Floral Point on Subase Bangor is the Floral Point Underwater EOD Range. According to the 2000 Biological Assessment of U.S. Navy EOD Operations in Puget Sound, WA, the detonations conducted by EODMU-11 Detachment Bangor occur at a single site in Hood Canal located approximately 200 m (600 ft) offshore of Floral Point on SUBASE Bangor. At this site the water depth is approximately 30 ft. Charges detonated at this site mostly are in the size range of 1 to 8 ounces, although charges as large as 5 lbs. are possible. The explosives used are C-4 and A-3. As noted previously, C-4 is a combination of 91.0% RDX and 9.0% polyisobutylene. A-3 (MIL-C-440B) is comprised of 91.0% RDX and 9.0% wax. Approximately four detonations occur at this site per year. The Biological Assessment concluded that:

- The EOD training program may affect, but is not likely to adversely affect, Puget Sound Chinook salmon and Hood Canal summer-run chum salmon, Stellar sea lion, humpback whale, bald eagle, marbled murrelet, and bull trout within the action area.
Navy EOD training operations could have minimal, short-term, localized impact to EFH for salmonids, ground fish, and other finfish. However, there would be no long-term adverse impacts to EFH as a result from Navy EOD training operations.

These same effects determinations were made relative to the NAVMAG Indian Island Underwater EOD Range and the Crescent Harbor Underwater EOD Range.

**NAVMAG Indian Island Underwater EOD Range**

According to the 2000 EOD Operations BA mentioned previously, training involving underwater detonations at the NAVMAG Indian Island Underwater EOD Range are infrequent and take place approximately four (4) times per year. Detonations typically occur in 50 to 60 feet of water over sandy or muddy bottoms. These locations are between 330 m (1100 ft) and 2200 m (7200 ft) from the nearest shoreline. The explosive used is C-4; typically 2.5 lbs NEW, but charges up to 20 lbs can be used. The effects determinations made are the same as those set forth for Subase Bangor.

**4.2.5.3 NSW Ranges - Kodiak Cold Weather Training Facility**

The Kodiak Cold Weather Training Facility (CWTF) on Kodiak Island, Alaska is leased by NAVFAC NW (for Naval Special Warfare Center) from the U.S. Coast Guard. The 130 acres leased through the year 2021 is located on the northeast tip of Kodiak Island, Alaska (DOT 2000). This area is on the Spruce Cape portion of the island (formerly the Coast Guard Loran Station). Environmental compliance research data from the Coast Guard and NSW is limited at this time; however a few environmental compliance issues are known through other public sources.

Early Coastal Management Program resource maps identified multiple sensitive environmental areas in the vicinity of the Kodiak CWTF. These sensitive areas include: areas with a high density of harbor seals, areas with whales in offshore waters, vital reproduction areas for king crab and dungeness crabs, coho salmon streams, major concentration areas for herring, archeological/historic sites, and areas with some subsistence use of resources (ACMP 1981).

The Lease permit references areas of particular concern on the leased premises including wetlands and possible archeological sites. In a permit amendment, the Navy agreed to exercise due diligence in their use of the permitted premises, implement appropriate environmental protection measures for the wetland and archeological sites, and ensure full compliance with the coordination requirements of the following laws:

- Archeological Resource Protection Act of 1979 (16 USC 470aa-470ll as amended)
4.2.6 Environmental Compliance Issues

4.2.6.1 Offshore Ranges

The Navy will need to continue to comply with the regulations and prohibited uses set forth in the Olympic Coast National Marine Sanctuary (OCNMS) EIS. It is emphasized that these regulations apply only within the boundaries of the OCNMS (See Chapter 2 Figures for the location of the OCNMS within W-237 and the Pacific NW Surface/Subsurface OPAREA). The Navy may also consider consultations with NMFS for the other operations that take place seaward of the NMS boundary. Such consultations will achieve ESA/MMPA/MSA compliance and provide programmatic coverage for such operations as ASW, TORPEX, A-G BOMBEX, ACM, MISSILEX, and GUNEX.

4.2.6.2 Inshore Areas

Special Use Airspace

There are no known environmental compliance issues of concern associated with airspace. With the introduction of the EA-18Gs to NAS Whidbey Island, total annual mobile source emissions of CO, NOₓ, and VOCs are projected to increase, and emissions of SO₂ and PM₁₀ are projected to decrease. NAS Whidbey will require a revision to their Title V operating permit; however, no significant impacts on air quality were determined in the EA for the aircraft introduction. Replacement of the EA-6Bs with the EA-18G will create a small area of increased noise, but this will be offset by the overall reductions in total area and population within the 65-dB DNL noise contour. Overall, flight operations are projected to decrease, and no vibrations would impact any historic structures.

Puget Sound Area

The Navy will need to actively participate with NMFS in discussions revolving around the proposed Critical Habitat designation and recovery plan for the Southern Resident killer whale. Though the proposed critical habitat specifically excludes DoD facilities and ranges, the Navy is still required to comply with the “no jeopardy” provisions of ESA Section 7. Regulations related to the species’ protection include potential Critical Habitat designations and vessel proximity limits may affect Navy vessel movement to and from ranges. The species’ endangered status also makes it increasingly
difficult for the Navy to lift its current restrictions on Puget Sound sonar use.

**Land Ranges - NWSTF Boardman**

The Final CRE Phase I Report for NWSTF Boardman concluded no off range release of munitions constituents had occurred, and that NWSTF Boardman would not need to proceed to Phase II of the RSEPA Process. However, the report lists a series of protective measures to enhance range sustainment. These are detailed in the Final CRE and are recommended for implementation. These protective measures should be shared with the Oregon Army National Guard. Naval Ordnance and Environmental Support Office (OESO) Document 01-98, January 1998, “Outdoor Small Arms Range Management Practices Guidebook” may also be relevant to the Oregon Army National Guard’s proposed small arms usage at NWSTF Boardman.

### 4.2.6.3 NUWC Keyport Ranges

The Dabob Bay Range Complex appears to have compliance issues under control (i.e., water sampling indicated no elevated metal levels and BA indicated that operations are not likely to adversely affect listed species). However, environmental compliance issues will need to be examined in relation to the proposed range extension. Furthermore, should operations change substantially these issues may need to be revisited. At the Nanoose Range Site, compliance issues will follow any SOP developed to minimize environmental impacts. Known issues and compliance practices at this range include expendable materials left on the strait floor, avoiding low-level flights over bird colonies and sea lion haulouts, and observing stand-off distances from marine mammals.

### 4.2.6.4 EOD and NSW Ranges

The Navy will need to continue to adhere to the mitigation measures set forth in the 2000 EOD Operations Biological Assessment. Following these mitigation measures will keep the Navy in compliance with ESA and MMPA. The Seaplane Base EOD Demolition Training Range also will need to continue to prepare its air permit reports indicating compliance with those permit requirements. No environmental compliance issues have been identified with regard to NSW operations that have not already been identified with respect to the ranges that they share with other operations.

### 4.2.7 Environmental Compliance Documents

Applicable environmental compliance documents are described in Figure 4-5 below.
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<thead>
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<th>Title</th>
<th>Range(s) Covered</th>
<th>Date</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td>Naval Air Station Whidbey Island Permit for Burning of Mk-25/58 Marine Markers</td>
<td>Seaplane Base EOD Demolition Training Range</td>
<td>1994</td>
<td>Complete</td>
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<tr>
<td>Final Site Visit/Record Search Technical Memorandum Dabob Range Site</td>
<td>Dabob Bay Range Complex</td>
<td>1996</td>
<td>Complete</td>
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<tr>
<td>Final Record of Decision Naval Submarine Base Bangor Operable Unit 8, Kitsap County, Washington</td>
<td>Bangor EOD Demolition Training Range, Floral Point Underwater EOD Range</td>
<td>2000</td>
<td>Complete</td>
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<td>Concentrations of Metals in Sediment and Water of Dabob Bay</td>
<td>Dabob Bay Range Complex</td>
<td>2001</td>
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<td>Biological Assessment for Ongoing and Future Operations at U.S. Navy Dabob Bay and Hood Canal Military Operating Areas</td>
<td>Dabob Bay Range Complex</td>
<td>2001</td>
<td>Complete</td>
</tr>
<tr>
<td>Final Report Comprehensive Range Evaluation Phase I, Whidbey Island Complex Preliminary Screening Synopsis Decision Point Two Report, Naval Weapons System Training Facility, Boardman, Oregon</td>
<td>NWSTF Boardman</td>
<td>2006</td>
<td>Complete</td>
</tr>
</tbody>
</table>

Figure 4-5. Environmental Compliance Documents for NWTRC

4.3 **ENVIRONMENTAL PLANNING**

Environmental planning, as defined by DoD Instruction 4715.9 “Environmental Planning and Analysis,” is the process of identifying and considering environmental factors that have an impact on, or are impacted by, planned DoD activities and operations. Environmental planning efforts are principally undertaken in compliance with NEPA and EO 12114. The environmental documents produced under these requirements must also provide for completion of the federal consistency process under CZMA, and any consultation or
permitting undertaken in accordance with the ESA, NHPA, MMPA, and the MSA, among others. Early consideration of potential environmental impacts can actually enhance military readiness by assuring access to critical training areas.

4.3.1 Coastal Zone Management Act (CZMA)

General requirements of the CZMA are included in Volume I of this RCMP. The CZMA delegates regulatory authority to coastal states having a federally approved Coastal Management Plan (CMP). All of the states within the NWTRC (Washington, Oregon, and Alaska) have federally approved CMPs that are discussed below.

4.3.1.1 Washington Coastal Zone Management Program

Washington was the first state to receive federal approval of a Coastal Zone Management Program in 1976. The Department of Ecology (Ecology) is the lead agency for Washington’s Coastal Zone Management (CZM) Program as part of its Shoreland and Environmental Assistance (SEA) Program. The six laws that form Washington’s CZM Program are:

1. The Shoreline Management Act of 1971 (including local government shoreline master programs,
2. The State Environmental Policy Act (SEPA),
3. The Clean Air Act,
4. The Clean Water Act,
5. The Energy Facility Site Evaluation Council (EFSEC) Law, and

Washington’s coastal zone is comprised of the following fifteen counties: Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Mason, Pacific, Pierce, San Juan, Skagit, Snohomish, Thurston, Wahkiakum and Whatcom. The coastal zone includes all lands and waters from the coastline seaward for three nautical miles. For the areas that abut the ocean, the coastline is defined as the position of ordinary low water. The coastline along the inland marine waters is located at the seaward limit of rivers, bays, estuaries, or Sound. The inland political boundaries of the counties are used as the coastal zone limit because they generally follow drainage divides, such as the Cascade mountains, the Black Hills, and the eastern edge of the Willapa Hills (Ecology 2001).

The Coastal Zone Management Act specifically excludes from the coastal zone those lands that are, by law, subject solely to the discretion of, or held in trust by, the federal government. The CZMA’s regulations provide that states must exclude from their coastal zone designations the lands that the federal government owns, leases, holds in trust, or otherwise has sole discretion to determine their use. These “excluded federal lands” within the boundaries of Washington’s coastal zone are:
Military reservations and other defense installations (e.g. Fort Lewis, Bangor Naval Submarine Station, Naval Air Station Whidbey Island),

• All lands within National Parks, including private inholdings (e.g. Olympic National Park, Mt. Rainier National Park),

• Indian lands held in trust by the federal government, and

• National Forest lands and National Recreation Areas owned or leased by the federal government (private in holdings are within the coastal zone).

Despite the foregoing exclusion, the CZMA federal consistency requirement (Section 307) requires that federal agency activities be consistent to the maximum extent practicable with the enforceable policies of a management program. There are three categories of activities which trigger a federal consistency review: 1) activities undertaken by a federal agency, 2) activities which require federal approval, and 3) activities which use federal funding. If a project falls into one of these categories AND is either in the coastal zone or it impacts coastal uses or resources, then the federal consistency process is triggered.

When a federal agency undertakes an activity, the following general process must be followed: The federal agency determines if coastal effects are reasonably foreseeable. In these cases, the federal agency reviews the activity for consistency with the six laws and prepares a “federal consistency determination.” The determination describes the activity and whether the activity impacts coastal resources. If the activity impacts coastal resources, a statement must be provided that the activity is consistent to the maximum extent practicable with the enforceable policies in the six laws. Ecology has up to 60 days to concur with or object to, in writing, with the determination.

4.3.1.2 Oregon’s Ocean-Coastal Management Program

The lead agency for coastal zone management in Oregon is the Department of Land Conservation and Development (DLCD). The DLCD is comprised of the Land Conservation and Development Commission’s (LCDC) staff. The DLCD carries out the LCDC’s decisions and administers the Oregon Coastal Management Program (OCMP). The OCMP is based on the Oregon Land Use Planning Act (ORS 197). The LCDC has adopted nineteen planning goals of which three (pertaining to estuarine areas, coastal shorelands, and beaches and dunes) set specific standards for coastal resources. These goals can be found at Oregon Administrative Rules (OAR) 660.

Federal Consistency Requirements: A project must be shown to be consistent with the various applicable components of the OCMP, that is with the statewide planning goals (see above list), with coastal city and county comprehensive plans and land use regulations approved by the LCDC, and with various state agency authorities (e.g., land
use planning statutes, the Oregon Territorial Sea Plan, the Removal-Fill Law, water quality standards, and the Oregon Beach Bill).

DLCD can assist individuals or agencies on a case-by-case basis with determining how to best go about demonstrating consistency with the OCMP. In general, a federal agency starts by consulting with the affected local city or county planning department to determine applicable local land use requirements, and checks with various state agencies to determine if any state approvals are required.

The OCMP applies to the land and water areas within Oregon’s Coastal Zone. All shorelands and drainage basins which have a significant and direct effect on coastal waters are included, with the exception of the Columbia, Umpqua, and Rogue River basins, which are included only to the extent of significant tidal influence. The coastal zone is formally defined as extending from the Washington border on the north to the California border on the south, seaward to the extent of state jurisdiction as recognized by federal law (the Territorial Sea, extending three (3) nautical miles offshore), and inland to the crest of the coastal mountain range. The three exceptions occur where the basins of the Columbia, Umpqua, and Rogue Rivers lie predominantly inland of the crest of the coastal mountains. In these cases the coastal zone boundary crosses these rivers at Bradwood, Scottsburg, and Agness, respectively.

### 4.3.1.3 Alaska’s Ocean-Coastal Management Program

The Alaska State Legislature created the Alaska Coastal Management Program (ACMP) in 1977. Although a voluntary state program, the ACMP provides the State of Alaska and its coastal communities important benefits authorized under the federal CZMA. Specifically, projects that trigger a review under the ACMP must be found consistent with the statewide standards and the enforceable policies of a coastal district, such as the Kodiak Island Borough (KIB).

The legislature stated that the purpose of the ACMP was to protect natural and scenic resources, foster wise development in the coastal area, and encourage coordinated planning and decision making. Additionally, the objectives of the ACMP are documented in Alaska Statutes (AS) 46.40.020 and include the following purposes:

- The orderly, balanced utilization and protection of resources of the coastal area consistent with sound conservation and sustained yield principles;
- The protection of historic, cultural, natural, and aesthetic values and natural systems or processes; and
- The full and fair evaluation of all demands on the land and water in the coastal area.
Legislation enacted in 2003 and regulations developed in 2004 made some major changes to the ACMP. The legislation removed matters regulated by the Alaska Department of Environmental Conservation from the coordinated consistency review process. Additionally, it disbanded the Coastal Policy Council, a state-coastal district body that implemented the ACMP. The program was transferred from the Office of the Governor to the Department of Natural Resources. The regulations deemphasized the role of coastal districts and narrowed their ability to develop enforceable policies.

The original KIB Coastal Management Plan (CMP) received state approval in 1983 and federal approval in 1984. The most recent plan amendments were scheduled to be adopted in June of 2005.

Federal lands and waters are technically excluded from the Kodiak Island district’s coastal zone. Activities on these lands and waters, however, are reviewed for consistency with the district’s enforceable policies if there would be spillover impacts to any land or water use or natural resource (15 C.F.R. 923.33). The KIB CMP contains numerous enforceable policies on topics such as: general policies; coastal development; natural hazards; coastal habitats and resources; air, land, and water quality; subsistence use; transportation and utilities; fisheries and seafood processing; recreation; archaeological and historic resources; energy facilities; mineral extraction and processing; and specific habitat, resources, and use policies.

The ACMP district boundary for the Kodiak Island Borough includes all of Kodiak Island, including the mountainous areas, and areas annexed by the borough in 1990 (portions of the Alaska Peninsula) which follow the 1000-foot contour and a one-mile corridor on either side of anadromous fish streams. The corridor is measured from the ordinary high-water mark on each bank. In addition, the boundary includes a corridor 200 feet on either side of all tributaries to the anadromous waters as measured from ordinary high water of each bank. The seaward boundary includes all state waters within the borough, generally those waters three (3) miles from shore. For the purposes of this RCMP, all areas used for NSW training on Kodiak Island are within the coastal zone boundary.

For the purposes of the ACMP on Kodiak Island, lands owned by Native corporations are considered private lands. These lands make up the vast majority of the private lands on Kodiak Island. Most of the lands owned by the corporations are located on Afognak, Whale, Spruce, and Sitkalidak islands. Native corporations also own land on northern Kodiak Island (ACMP 2006).

### 4.3.1.4 California Coastal Management Program

The California Coastal Act (CCA) (California Public Resources Code, sections 3000 et seq.) implements California’s CZMA
The California Coastal Management Program (CMP) was federally-approved in 1978. The Federal Consistency Unit of the California Coastal Commission (CCC) implements the CMP as it applies to federal activities. Site specific descriptions of the coastal zone can be found in Chapter 2.5 Section 30150-30174 of the California Coastal Act. The California coastal zone generally extends 1,000 yards inland from the mean high tide line. In some estuarine habitat and recreational areas, it extends inland to the first major ridgeline or 5 miles from the mean high tide line, whichever is less. In developed urban areas, the boundary is generally less than 1,000 yards from the mean high tide line. The coastal zone of California extends seaward to the 3 nm territorial sea.

The enforceable policies of the California CMP are contained in Chapter 3 of the California Coastal Act of 1976 and include the following:

- Article 1 – General.
- Article 2 – Public Access.
- Article 3 – Recreation.
- Article 4 – Marine Environment.
- Article 5 – Land Resources.
- Article 6 – Development.

Article 4, Section 30230, Marine Resources, could be applicable to the Navy’s at sea training in the NWTRC. This section states: "Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes."

### 4.3.2 Marine Resource Assessment

A marine resources assessment (MRA) is currently under contract by the Navy to prepare a comprehensive compilation of existing information on protected and commercial marine species, habitats and oceanographic features including bathymetry, currents and substrate, present in the Pacific Northwest Operations Area, Gulf of Alaska and surrounding region, and to assess and interpret that information for Navy environmental planning purposes (DoN, TBD...
The MRA contributes to a database used in United States Fleet Forces Command’s (USFFC’s) integrated long-range planning process and provides data for analysis of future training needs in relation to important marine resources.

All relevant literature, sighting and survey data, and other available information will be compiled and analyzed. This review will address the following: 1) distribution and/or migration patterns of threatened/endangered marine species, marine mammals, and commercially and recreationally important species; 2) in-water foraging areas of federally protected seabirds; 3) Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern; 4) other important or sensitive areas, such as Native American Usual and Accustomed fishing areas, tournament fishing grounds and special aquatic areas; 5) cultural/historic sites (shipwrecks); and 6) any other marine natural resources, including Marine Protected Areas, National Marine Sanctuaries, and state protected areas, within or adjacent to the specified OPAREA, that are vulnerable to impacts from Navy activities.

A few items that set this MRA apart from other MRAs are:

- Coverage shall include in-water foraging areas for federally protected seabirds.
- Coverage shall include up to the high tide line for the inshore areas.
- Coverage should only extend to three miles offshore except in area W237A.
- Coverage shall include transit areas in the Puget Sound Region (which includes the Strait of Juan de Fuca, The Georgia Strait, Puget Sound, Hood Canal, the waters surrounding the San Juan Islands and several other associated waterways in northwestern Washington State and southwestern British Columbia, Canada).

The final MRA was completed in September 2006.

### 4.3.3 National Environmental Policy Act (NEPA) and EO 12114

A discussion of the general process and requirements for NEPA and EO 12114 is found in the Range Complex Management Plan Guidebook (DoN 2004). This section summarizes existing NEPA and EO 12114 documents addressing training activities within the NWTRC. The order of discussion follows the earlier structure: offshore ranges, inshore ranges, NUWC Keyport ranges, and EOD/NSW ranges.

### 4.3.3.1 Previous Environmental Planning

This section details completed environmental planning documents that are still relevant and are the governing planning document for their associated activities. Documents contained in this section are
for operations or exercises that are still be conducted; not one-time activities.

4.3.3.1 Offshore Ranges

Pacific NW Ocean OPAREA and W-237

_Olympic Coast National Marine Sanctuary (OCNMS) EIS_. The OCNMS EIS was finalized in November 1993. In accordance with Title III of the Marine Protection, Research, and Sanctuaries Act (MPRSA), as amended 16 U.S.C. §§1431 et seq., the EIS established the marine sanctuary off the Olympic Peninsula of Washington State. The Sanctuary boundary encompasses approximately 2,500 NM². The OCNMS boundary overlaps with and encompasses a portion of W-237 A, B & E, and the underlying Pacific NW OPAREA. The Sanctuary designation further prohibits the taking of marine mammals, sea turtles, and seabirds (in addition to the protections already built into MMPA, ESA, and the MBTA). However, activities authorized or permitted pursuant to MMPA, ESA, or MBTA are exempted from the prohibition.

The EIS determined that the Navy’s use of Sealion Rock within the Sanctuary was incompatible with the designation. All bombing activities are prohibited at the rock (On August 18, 1993, the Secretary of the Interior had rescinded the permit authorizing the Navy to use Sealion Rock as an alternative practice bombing site after the Navy voluntarily ceased practice bombing activities there). The EIS identified 14 Federal Endangered and 6 Federal Threatened species that are known to occur in the area. The consultation process also noted one state endangered and one state threatened species that are known to inhabit the sanctuary ecosystem. These are listed in Figure 4-6 below.

The OCNMS EIS recognizes the prior existing use of the Sanctuary for a variety of Navy training (including subsurface, offshore surface and aerial operations). Submarine operations described include:

1. transits between Puget Sound and the undersea operating area,
2. hull integrity tests and other deep water tests of 1 to 2 weeks duration (performed between 7-30 miles off Cape Johnson),
3. in-water testing of non-explosive torpedoes 6-8 times/year lasting 1-4 days (5-14 miles off Kalaloch), and
4. barging of defueled nuclear reactor compartments from Puget Sound to the Columbia River.
Federal Endangered Species in OCNMS | Federal Threatened Species in OCNMS
---|---
Aleutian Canada Goose | Bald Eagle
American Peregrine Falcon | Stellar Sea Lion
Blue Whale | Loggerhead Turtle
Brown Pelican | Green Turtle
Fin Whale | Olive Ridley Turtle
Gray Whale | Sacramento River Winter-Run Chinook Salmon
Humpback Whale | 
Right Whale | 
Sei Whale | 
Short-tailed albatross | 
Sperm Whale | 
Leatherback Turtle | 
Snake River Sockeye Salmon | 
Snake River Fall Chinook Salmon | 

**Washington State Endangered Species in OCNMS** | **Washington State Threatened Species in OCNMS**
---|---
Snowy Plover | Harbor Porpoise

**Figure 4-6. Endangered & Threatened Species in the Olympic Coast National Marine Sanctuary**

Other Navy training activities identified in the EIS include:

1. minesweeping generally limited to passive surveying;
2. operation of an acoustical net off Washington;
3. air operations in W-237A/B such as air combat maneuvering, air intercept, air refueling, air-to-air gunnery and rocketing, air-to-surface gunnery and missile exercises, and anti-submarine warfare training. The EIS explains that expenditure of sonobuoys, marine smoke markers, and ordnance take place under controlled conditions designed to minimize threats to the environment.
4. surface operations, including live firing of guns, missiles, torpedoes, and chaff.
5. operation of an undersea test range (Quinault Range Site) to track aircraft, surface vessels, submarines, and undersea vehicles (inert torpedoes, mines, and countermeasures, etc.). Operations are typically conducted 8-15 times/year with operations lasting 1-7 days.

Range utilization data from 1991 indicated 2,572 hours of W-237 use including 575 events. These events involved 156 Navy aircraft, 224 Air Force aircraft, 131 Coast Guard aircraft, 10 Navy ships, 27 Coast Guard ships, and 27 civilian aircraft.
Upon completion of the OCNMS EIS, the final rules were published in the Federal Register on May 11, 1994 (See 15 CFR Part 925). All Navy bombing in the Sanctuary is prohibited; however, other Navy training is explicitly permitted if: 1) it is an existing military activity including hull integrity tests and other deep water tests; live firing of guns, missiles, torpedoes, and chaff; activities associated with the Quinault Range Site, including the in-water testing of non-explosive torpedoes; or anti-submarine warfare operations, or 2) the activity is a new activity and exempted by the Director of the office of Ocean and Coastal Resource Management or designee after consultation between the Director or designee and the Department of Defense. The DoD is required to avoid to the maximum extent practicable any adverse impact on, destruction of, loss of, or injury to a Sanctuary resource or quality resulting from an untoward incident (15 CFR 925.5(e)).

Sinking Exercise (SINKEX) Overseas Environmental Assessments (OEs). In 2005, an OEA was prepared for a SINKEX held in the open ocean at the approximate coordinates latitude 47° 00’ north and longitude 127° 30’ west. This location is approximately 130 nm west of the coast of Washington state. This coordinate underlies W237F and W237G in the Pacific NW OPAREA. The targets utilized in the 2005 SINKEX included two decommissioned U.S. Navy destroyers, the ex-USS OLDENDORF (DD 972), and the ex-USS FIFE (DD 991). Each target measured 564 ft long, 55 ft beam, 29 ft draft, and had a displacement of 2,900 tons. This general area was previously used for a SINKEX in June, 2004 involving the sinking of the ex-HEPBURN (FF-1055). An OEA was prepared for that event as well. A wide array of weaponry and participants were involved in the event. The process for selecting the SINKEX area involved a balance of operational suitability, meeting the requirements of the MPRSA permit (40 CFR 229.2) granted to the U.S. Navy, and identifying areas with a low likelihood of encountering protected species (in accordance with the ESA and MMPA). To preclude takes of marine mammals or sea turtles, a series of protective measures were adhered to during the SINKEX, including: daylight operations, avoidance of oceanographic fronts, establishment of a 2.0 nm exclusion zone, and surveillance over flights (DoN 2005).

4.3.3.1.2 Inshore Ranges: Air Ranges

Olympic “A” and “B” MOAs, Okanagan “B” MOA, Boardman MOA and NWSTF Boardman

The EA for the A/OA-10 Beddown McChord AFB, Washington was finalized in August 1992. This EA assessed the proposed BRAC relocation of 18 A-10A and 6 A/OA-10 Primary Aircraft Authorizations at McChord AFB, Washington. The A-10s have since relocated to Texas and Florida, but the EA is described here for information purposes. The proposed action included A-10 usage of
the Olympic “A” and “B” MOAs, and Okanogan “B” MOA for
flight training maneuvers, including self defense maneuvers. No
weapons would be fired and bombs, flares, or other materials would
not be dropped in the MOAs. The proposed action also involved A-
10 usage of NWSTF Boardman within the Boardman MOA (R-
5701) for strafing training with 30 mm guns, bomb dropping, and for
dropping of chaff and flares. The Yakima Firing Range and Fort
Lewis Range were proposed for similar weapons training. Aerial
refueling training was to take place primarily in the Okanogan
MOAs. The Olympic MOAs would contribute to high altitude (i.e.
6,000 ft AGL) flight training. The Olympic and Okanogan MOAs
are single mission MOAs because fuel consumption associated with
use of these MOAs for flight training and travel to the firing ranges
for target practice exceeds A-10 capacity. No significant impacts
were identified in association with the proposed A-10 beddown at
McChord AFB.

Approximately 35 percent of A-10 sorties would use NWSTF
Boardman under the proposed action outlined in the EA. The EA set
forth the proposed use of NWSTF Boardman for A-10s as: 1) 30 mm
Strafing (subject to approval of strafe pit), 2) 2.75” Rockets, 3) Inert
bomb drops up to 1,000 lbs., and 4) Chaff drop (no flares).

The following are highlights of the environmental consequences
associated with the proposed A-10 usage of these range areas:

**NWSTF Boardman, Boardman MOA, R-5701 and R-5706**

- Slight increases in fugitive dust due to use of the strafe pit
  and dropping of inert munitions.
- Total noise levels would remain at 64 dB. This level is
  compatible with land use guidelines.
- No groundwater impacts are expected since inert bombs are
  cleared from the range on a weekly basis.
- Airspace scheduling authorities do not anticipate a significant
  increase in operational load from the A/OA-10 training
  missions.
- The Boardman range impact zone contains one of the only
  two remaining needle and thread grass-Sandberg’s bluegrass
  communities in the U.S. Fires from bomb smoke charges and
  operation of the strafe pit may damage some of this
  community. However, the Nature Conservancy stated that
  the effects of using the bomb impact area upon the ecosystem
  appear negligible.
- Standard low-level dry-runs to assure clearance of the strafe
  area act to disperse sensitive bird species and thus avoid
  impacts to them upon strafe commencement.
Olympic and Okanogan MOAs

- All MOA sorties would be flown over rural areas in attainment for air quality.
- The projected increase in operations in the Okanogan MOA due to the A-10 is 72 daytime and 4 nighttime sorties per month. The total noise level would remain at 52dB, which is well within land-use compatibility guidelines.
- Whidbey operations personnel indicate that there should be no problem accommodating all current and potential users of the MOAs.
- By avoiding low-level flights along river corridors, A-10 pilots would not impact the bald eagle.
- No consultative process is required with Indian Tribes when planning operations or a change of mission at the MOAs (the Colville Indian Reservation underlies 25% of the Okanogan MOA).

Okanagan MOA

An EA was prepared for the Okanagan MOA in November 1976 (USAF 1976). The EA focused on the impacts produced by converting the airspace known as Okanagan Air Traffic Control Assigned Airspace (ATCAA) to the Okanagan Military Operations Area (MOA). No significant adverse environmental effects were reported. The EA described the operations as aircraft training at minimum altitude of 1,000 feet AGL and radar interceptors attack targets for simulated radar missile firing. The EA noted that no live firing would take place, each mission would consist of 3-4 aircraft with airspeeds varying from 250-500 knots (supersonic flight would not be permitted), heaviest planned activity would be 12 aircraft per day between the hours of 0900 and 1730, and there would be no planned night missions below 3,000 feet AGL.

The EA identified no significant adverse environmental impacts. In the discussion of land impacts, it was noted that the only release from aircraft is electronic warfare chaff and there had been no reports of adverse effects from chaff. Mentionable areas of concern under the MOA include the City of Omak Airport and a Methow Valley ski resort which may host 9,000 skiers each day in peak season.

The FAA established the MOA (effective January 29, 1976) with a purpose of providing general and commercial aviation warning and knowledge of military training areas. The MOA does not establish any flight restrictions or communication requirements on VFR operations transiting the area. The EA noted that IFR operations would be rerouted or provided IFR separation from the military operations within the area when the MOA is being used.
Military Training Route (MTR) IR-344

The EA for the Proposed C-17 Beddown McChord Air Force Base, Washington was finalized in January 1997 and a Finding of No Significant Impact (FONSI) was signed on March 3, 1997. Though this assessment was prepared for the Air Forces’ beddown of 48 C-17 aircraft (and retirement of the C-141 aircraft), the document describes the environmental impacts to various MTRs, including one used by the Navy’s EA-6Bs. Of focus here, the EA describes the baseline environmental conditions and environmental consequences of aircraft usage of IR-344 (Department of the Air Force 1997). According to the EA, no obstructions or towers extend through the floor of the IR-344. On IR-344, the greatest potential for migratory bird strikes is from August to January during the night, from surface to 5,000 feet AGL; and for raptors from February to November during mid-day and dawn/dusk, from surface to 2,000 feet AGL (Department of the Air Force 1997).

Darrington OPAREA, Olympic MOA, Okanagan MOA, Roosevelt MOA, W-237, and NWSTF Boardman

An EA was prepared for the Replacement of EA-6B Aircraft with EA-18G Aircraft at NAS WI Washington, and a FONSI was signed July 19, 2005 (DoN 2005). The EA covers three main mission areas for the EA-18G, including Airborne Electronic Attack (AEA), Air to Air combat, and Air to Ground training. The EA notes that AEA will continue to be performed in the Darrington OPAREA as it was with the EA-6Bs. Air to Air combat training will take place in W-237, Olympic MOA, Okanagan MOA and Roosevelt MOAs. Air to Ground training will take place in W-237 and at NWSTF Boardman. W-237 supports the use of both live and inert ordnance (except that within the boundary of the OCNMS only inert ordnance is permitted). NWSTF Boardman supports inert ordnance only. However, the EA notes that EA-18G air-ground ordnance delivery will likely take place elsewhere, but may on occasion take place at W-237 and NWSTF Boardman. The EA projects that EA-18G operations in calendar year 2013 will total 25,283 annual operations, of which annual P-3 operations would total 19,575, C-9 operations would total 325, and transient P-3s would total 252.

Aircraft operating in the Darrington MOA and the Olympic MOA practice electronic warfare through contact with electronic combat training (ECT) facilities. One ECT facility at OLF Coupeville sends controlled electronic signals to enable aircrews to practice rapid identification, location, and reaction to simulated threat signals from multiple ground sources. The Darrington MOA is identified as the primary airspace in which aircraft can loiter for a required time while conducting surveillance training, and while the ECT device (AN/FSQ-T22) tracks the aircraft (NAVFAC NW 1997b).
4.3.3.1.3 Inshore Ranges: Land Ranges and Water Ranges

**EIS Boardman Target Range (circa 1973-1975)**

An EIS was drafted in the early 1970s regarding the use of NWSTF Boardman. The use at that time was described as by A-6s for Mk-76 inert weapon delivery training between 65 and 135 hours per month. The EIS included a discussion of encroachment pressures upon the range, including pressures to relocate the range in order that the site could be used for industrial or agricultural purposes after the construction of the John Day Dam. In the early 1970s there was also encroachment pressure in the form of a proposed nuclear power plant project on neighboring Boeing property. The only environmental impacts identified from continued use of Boardman range were: 1) public dissatisfaction with the Navy presence which has precluded other land uses; and 2) soil erosion stemming from cattle grazing on outleased parcels. It was noted that a land management plan under development for NWSTF Boardman would identify measures to reduce the soil erosion.

**Navy “3” Beneath old R-6713**

In the 1974 Boardman Target Range EIS, old R-6713 was listed as an alternative to Boardman under consideration. The area was identified as a water area in the Straits of Juan de Fuca at 48° 19’N, 122° 50’W. According to the EIS, if it were feasible to construct a raked target in this area it would still not alleviate the requirement to retain Boardman, but would enhance existing training capabilities.

The list of advantages of a raked target in this area included:
1. Reduction of some of the Boardman training requirements;
2. Provision of a secondary facility for weapons training during high density Boardman usage or inclement weather;
3. Alleviation of the requirement to use Sea Lion Rock, an unmanned unraked coastal target as a secondary target. Sea Lion Rock is considered inadequate;
4. Provision of a suitable target facility for Naval Air Reserve aircraft.

4.3.3.1.4 NUWC Keyport Ranges

**NanOOSE Range Site: EA of the Operational Testing Exercises at the Canadian Forces Maritime Experimental and Test Ranges (CFMETR), Nanoose, British Columbia.**

This Canadian EA was prepared to evaluate the testing and training activities at the CFMETR. Looking at the entire history of range use and the future use, the environmental consequences of the activities were found to be minimal, with the dominant issue being the accumulation of expendable materials on the seabed of the Whiskey Golf (WG) range area in the Georgia Strait (CFMETR 1996). The chief social concerns of range activities are: the extensive use by the
U.S. Navy (6-7 times greater than Canadian usage), perceived risk of
the testing activities, and inconvenience to shipping caused by
restricted areas. The EA covers the multitude of operations
conducted at the WG range and the Jervis Inlet (Whiskey November
[WN]) range, including:

1. Torpedo testing, including surface, air and subsurface launches
   (average of 500 Mk-46s tested/year, and average of 158 Mk-50s
tested/year);
2. Weapon system accuracy trials;
3. Sea trials for warships including ship turning, acceleration, and
de-acceleration;
4. Submarine torpedo firing exercises (200-300 Mk-48 firings from
   submarines between 1970-1994);
5. Anti-submarine warfare exercises from surface ship and aircraft
   (240 U.S. and 243 Canadian range ship visits between 1967-
   1994 for lightweight torpedo exercises, 1,650 U.S. anti-
   submarine air ops and 365 Canadian air ops at the WG range
   between 1967-1994, and 6,700-6,800 heavyweight torpedo
6. Torpedo defense and countermeasures exercises (approximately
   100 countermeasure devices were launched between 1988-1991
during nuclear submarine visits, but typically averaged 1
   countermeasure every two years);
7. Rocket-launched torpedo testing (as of 1994, there were 81
   ASROC firings on range);
8. Torpedo mine testing and exercises (Between 1967-1994 300
   Mk-60 [CAPTORs] had been air dropped); and
9. Sonobuoy quality assurance testing (averaged 1,570 sonobuoys
tested/year).

Between 1967 and 1994, CFMETR hosted a total of 240 U.S. Ship
visits, 154 U.S. submarine visits, 243 Canadian ship visits, 6
Canadian submarine visits, 8 foreign ship visits, and 1 foreign
submarine visit. Typical aircraft usage of CFMETR is depicted in
Figure 4-7.

<table>
<thead>
<tr>
<th>Type of Aircraft</th>
<th>Flight Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hughes 500 four passenger helicopter</td>
<td>4 days/week</td>
</tr>
<tr>
<td>Beaver or Cessna Float Plane</td>
<td>1-2 times/day,</td>
</tr>
<tr>
<td></td>
<td>4 days/week</td>
</tr>
<tr>
<td>Contract TurboBeaver</td>
<td>45/year</td>
</tr>
<tr>
<td>CP140 Aurora aircraft</td>
<td>36/year</td>
</tr>
<tr>
<td>P3 Orion aircraft</td>
<td>34/year</td>
</tr>
<tr>
<td>S3 jets</td>
<td>6/year</td>
</tr>
<tr>
<td>Canadian SeaKing Helicopter</td>
<td>8/year</td>
</tr>
<tr>
<td>U.S. SeaKing Helicopter</td>
<td>2/year</td>
</tr>
<tr>
<td>Large Helicopter</td>
<td>No Data</td>
</tr>
<tr>
<td>B52</td>
<td>2 visits in 1994</td>
</tr>
</tbody>
</table>

Figure 4-7. Average Aircraft Usage at CFMETR
None of the torpedoes have had explosive warheads, with the exception of two live tests which were conducted in NanOOSE harbor in the 1960s.

Due to some environmental concerns noted during the EA process, a series of mitigation measures were set forth, as follows:

1. A report should be commissioned on the engineering feasibility and cost/benefit of reducing or eliminating the expendable materials from each of the three aspects of range operations;
2. The Canadian and U.S. Navy should investigate moving to entirely non-ballasted HOTTORPs and REXTORPs, if necessary, by using a floatation collar to provide buoyancy for recovery;
3. CFMETR should maintain internal records of the expendable materials generated by range activities;
4. To protect the Peregrine Falcons nesting on Ballenas Island, it is recommended that the island not be subjected to low jet overflights during the period 1 March through 30 June.
5. To protect the Pelagic Cormorant nesting sites on Ballenas Island, it is recommended that low jet overflights of these islands be restricted between 1 April and 15 June.
6. It is recommended that some helicopters be made available for bird surveys of the range areas.
7. It is recommended that CFMETR continue its present policy of suspending torpedo testing when cetaceans are detected within one thousand (1000) yards of the intended torpedo track or within the fenced boundary of the torpedo in the case of ADCAP torpedoes.
8. It is recommended that range vessels maintain a log of cetacean use of the range.
9. Helicopter flights to Winchelsea should respect the pinniped haulouts and fly high enough to avoid causing the seals and sealions to leave their haulouts.
10. The further development and use of REXTORP and HOTTORP dummy torpedoes is encouraged.
11. Records of spills are being kept and should be maintained.
12. U.S. personnel should receive briefings on the history of the range and the principal concerns expressed by the community.
13. A U.S. representative should participate in the regular stakeholder meetings which are proposed.
14. A written policy is recommended for dealing with range intruders who are not cooperative.
15. NUWC Keyport should ensure that all their promotional and briefing material clearly identify that the CFMETR ranges are jointly run with the Canadian Armed Forces.
16. CFMETR should provide compensation in the event that a foreign warship, weapon, or mooring buoy damages a small Canadian craft or its operators.
17. CFMETR should ensure that the ranges are safe to transit in poor visibility and at night either by suitably marking/lighting
mooring buoys and any other hazards to navigation or by removing them when the range is not active.

18. The DND should prepare a study that addresses the clean-up activities which are envisaged and the anticipated division of clean-up responsibilities in the event that the WG or WN license of occupation expires or either party to the agreement decides to terminate its range operations.

19. CFMETR should continue its public education and awareness programs in accommodating vessels transiting the range.

20. A log of interactions with boaters should be maintained recording cooperative and uncooperative situations.

**CFMETR Environmental Assessment Update (2005)**

The CFMETR EA update was commissioned in 2003 to review the findings of the 1996 EA (CFMETR 2005). The update includes a more detailed assessment of the impacts of lead and lithium batteries deposited in CFMETR waters, as well as some recommended courses of action to improve environmental practice. Land based operations, nuclear issues, and the effects of sonar on marine mammals were outside the scope of the update. The update generally agrees with the work done in the 1996 EA. A summary of the update recommendations follows:

1. CFMETR should continue to ensure Canadian environmental protocols are followed in all CFMETR operations;
2. CFMETR should conduct periodic review of activities and operating procedures comparing them to applicable regulations; New procedures should be implemented when economically feasible to reduce environmental impacts;
3. Current expendable materials on the sea floor should not be disturbed;
4. Design of new or upgraded practice weapons should aim to minimize or eliminate expendable materials;
5. A database on expendable materials should be created to maintain more detailed expendable materials information, and to have such information readily available;
6. Sonar should be monitored and minimized where possible;
7. Bird studies should be undertaken to record the range usage by vulnerable or threatened species;
8. A website should be made available to the public to make CFMETR operations more visible and understandable; and
9. The Department of National Defense (DND) should continue scientific studies on the effects of sonar on marine mammals and fish.

**Dabob Bay Range Complex: EA for Ongoing and Future Operations at U.S. Navy Dabob Bay and Hood Canal Military Operating Areas.**

An EA was prepared for Ongoing and Future Operations at U.S. Navy Dabob Bay and Hood Canal Military Operating Areas and a
FONSI was signed on June 10, 2002 (NAVFAC NW 2002). This EA evaluated the potential environmental impacts associated with adoption and implementation of an Operations and Management Plan (OMP) to regulate testing and operations occurring in Dabob Bay and Hood Canal in Kitsap and Jefferson Counties, WA.

The operations conducted at the Dabob Bay and Hood Canal MOA range sites can be divided into four categories: 1) research and experimental (65%), 2) proofing (15%), 3) fleet operations (15%), 4) other testing activities (5%). The estimated total number of launches is 285 launches per year. Between 1997 and 1999, these operations were conducted an average of 134 days per year. The table below lists the types of systems tested and annual range usage.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Platform/System Used</th>
<th>OMP Estimated Annual Range Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Propulsion Systems</td>
<td>Otto Fuel II</td>
<td>Approximately 90 tests</td>
</tr>
<tr>
<td></td>
<td>Stored Chemical Energy Propulsion System (Mk-50, Torpedo Defense Vehicle)</td>
<td>Approximately 10 tests</td>
</tr>
<tr>
<td></td>
<td>Experimental Thermal Systems</td>
<td>Approximately 20 tests</td>
</tr>
<tr>
<td>Electric Systems</td>
<td>General Test Vehicles</td>
<td>Approximately 60 tests</td>
</tr>
<tr>
<td></td>
<td>Unmanned Underwater Vehicles</td>
<td>Approximately 60 tests</td>
</tr>
<tr>
<td></td>
<td>Mk-30 Target</td>
<td>Approximately 20 tests</td>
</tr>
<tr>
<td>Other Testing Activities</td>
<td>Submarine Testing</td>
<td>Approximately 45 tests</td>
</tr>
<tr>
<td></td>
<td>Mine Sweeping</td>
<td>Approximately 20 tests</td>
</tr>
<tr>
<td></td>
<td>Non-Navy Testing (such as Trawler Exercises)</td>
<td>Approximately 5 tests</td>
</tr>
<tr>
<td></td>
<td>Acoustic and Magnetic Array Testing</td>
<td>Approximately 10 tests</td>
</tr>
<tr>
<td></td>
<td>Countermeasures</td>
<td>Approximately 50 tests</td>
</tr>
<tr>
<td></td>
<td>Impact Testing</td>
<td>Approximately 10 impacts</td>
</tr>
<tr>
<td></td>
<td>Static Testing in Water</td>
<td>Approximately 10 tests</td>
</tr>
<tr>
<td>Fleet Operations</td>
<td>Surface Ship Operations (including launches)</td>
<td>Approximately 10 tests</td>
</tr>
<tr>
<td></td>
<td>Aircraft Operations</td>
<td>Approximately 10 tests</td>
</tr>
<tr>
<td></td>
<td>Submarine Operations</td>
<td>Approximately 30 tests</td>
</tr>
</tbody>
</table>

Figure 4-8. Types of Underwater Vehicles Systems Tested at the Dabob Bay Range Complex

**EA for 2003 AUV Fest at NUWC Keyport.**

The EA for the 2003 AUV Fest at NUWC Keyport covered 200 operations of Autonomous Vehicles (AVs) (crawlers, swimmers, and surface AVs) during the two-week fest event and 120 follow-on operations (conducted over 2 years through August 2005). Operations involved sonar emissions. Operations took place within the Keyport Range Site and a contiguous area of Port Orchard Reach. This level of operations was determined to cause no significant impact on environmental resources at the Keyport Range Site.
The no-action alternative in the EA analyzed operations that currently take place at the Keyport Range Site. The EA describes Keyport Range Site current operations as those that involve “testing areas, including in-shore shallow water sites to support integrated undersea warfare systems and undersea vehicle maintenance and engineering activities.” The EA also noted that the site has surface and air tracking capabilities and is used approximately 6 times a year for a variety of boat and diver training activities lasting from 1 to 10 days (NUWC Keyport 2003). Current operations, as outlined in the no-action alternative, were determined in the EA to have no significant impact in any environmental issue area.

Of note, the EA mentions that NUWC Keyport was listed on the U.S. EPA’s National Priorities List in October 1989. A Public Health Assessment was prepared in 2001 to evaluate exposure pathways and to respond to community concerns about past, current, and potential future exposures to contaminants. The assessment determined that exposures to contaminants in the ground water underneath and adjacent to NUWC Keyport and in shellfish in marine waters surrounding NUWC Keyport do not pose a public health hazard (ATSDR 2001). To date, a number of remediation, ground water monitoring, and sediment sampling actions have been completed, and on-going monitoring of selected areas will continue as appropriate (ATSDR 2001).

**4.3.3.1.5 EOD and NSW Ranges**

**EA for the Detonation Training Range, Seaplane Base (1993)**

This EA evaluated the potential environmental impacts resulting from the establishment and operation of a Detonation Training Range (DTR) at NAS Whidbey Island, Seaplane Base. The preferred location identified in the EA is a 4.5 acre parcel of land located between Inert Storage Magazines 444 and 445 near the northeastern border of the Seaplane Base. The purpose of the project was to provide an on-station DTR with a limit of 0.5 lb Net Explosive Weight, TNT equivalent, using only uncased, non-fragment producing bulk explosives for EOD training. Because the range would only be used for training, it was determined not to need a RCRA permit.

To mitigate the impacts of DTR usage, the Navy agreed to undertake the following mitigation measures:

1. Detonation training will be conducted only during normal working hours (8:00 AM – 5:00 PM).
2. Detonation training will be conducted only during days when the weather is favorable.
3. When not in use, the detonation area will be covered to prevent water intrusion.
4. Soil samples will be taken annually and the sand will be replaced prior to reaching the allowed threshold level for Pb or PbO precipitate.
5. The upland forest area at Site B will be retained to reduce sound wave propagation, thereby reducing the potential impact noise and providing a visual block to bald eagle nesting and foraging areas.
6. A 400 square foot barricaded exclusion area will be established around the detonation area.
7. A restricted area will be established outside of and surrounding the exclusion area and will be marked clearly with explanatory signs.
8. Red flags will be raised at access points to the restricted area before detonation training operations begin, and they will remain raised until operations are completed.
9. A Navy qualified and certified Safety Officer will visually check the exclusion area before each detonation.


The EA for Relocation of the Explosive Ordnance Disposal Demolition Training Range addressed the construction and operation of a new Explosives Ordnance Disposal (EOD) Demolition Training Range (DTR) at NAS Whidbey Island, Seaplane Base, Oak Harbor, Washington. A FONSI was signed on December 22, 2000. The EOD DTR was to be operated by EODMU ELEVEN and EODMU SEVENTEEN for approximately 15 detonations per week. Use was proposed for up to 5-lb. Net Explosive Weight (NEW), trinitrotoluene (TNT) equivalent, of non-fragment producing materials. The site for the new DTR is on a terraced grassy clearing on a hillside immediately north of the road that parallels the Crescent Harbor shoreline, referred to as the Terrace Site. Three alternative sites were eliminated for failure to meet one or more of five criteria.

The Navy committed to the following mitigation measures in order to offset certain potential impacts, as follows:
1. Modeling indicates that increasing the explosives from .5 lbs to 5.0 lbs NEW explosives would create potentially significant impacts to nearby residents. To greatly reduce the potential for noise complaints and to eliminate the potential for damage, detonations should only be conducted during specific meteorological conditions that take into account the temperature gradient, wind direction and speed, and the amount of explosive to be detonated. The DTR was to adopt a table of these meteorological conditions into their new Standard Operating Procedures.
2. EODMU would conduct an open-house to inform, educate and establish correspondence with the residents affected by high noise levels and the expected frequency of occurrence of the detonations, as well as what they may experience (e.g., rattling of windows).

3. Demolition training will not occur when marine mammals are present on the haul-out rocks located just off shore from the proposed site.

Despite completion of the EA for the Relocation of the EOD DTR in 2000, the requirement that dictated the need to relocate the range did not occur. The EOD DTR has remained in the original location identified in the July 1993 EA. The completed EA for the relocation has been shelved, but could be a beneficial document in the event that relocation of the DTR is proposed again in the future.

**EA for Joint Logistics Over-the-Shore (JLOTS) Exercise (2005)**

Though the JLOTS EA does not address EOD operations in the Port Townsend Bay, it is included here as it does assess potential environmental impacts related to the proposed JLOTS exercises which take place, in part, in these waters primarily used by EOD Mobile Unit ELEVEN and EOD Mobile Unit SEVENTEEN. The JLOTS exercises have been held at NAVMAG Indian Island Underwater EOD Range for the past seven years on an annual basis. This past year’s exercises were held in August 2005. The exercise involves units from the U.S. Navy, U.S. Army, and U.S. Coast Guard training on container throughput operations to replicate the joint delivery of cargo in an underdeveloped beach environment. The JLOTS afloat operations that take place in part within the NAVMAG Indian Island Underwater EOD Range consist of boats from the U.S. Navy, Military Sealift Command, Maritime Administration, the U.S. Coast Guard Auxiliary, and other assets previously scheduled by Commander THIRD Fleet. A strategic lift vessel will deploy a homeport lighterage to NAVMAG. The JLOTS 05 also involved SEAHAWK, which is a harbor defense/port security training event. This event will involve ten 25’ U.S. Navy MSS-3 craft, two privately owned Coast Guard Auxiliary craft and two Boston Whalers. To minimize afloat environmental impacts the following measures were incorporated into the training sequence.

- Small boat insertions would be conducted at high tide to avoid possible damage to eel grass beds.
- For all vessel landings, no anchor drops will be performed or permitted within 300 feet of the shoreline due to the presence of eelgrass beds adjacent to these ramps.

Based on factors such as the limited duration of the exercise, the avoidance of seasonal migrations, and measures to avoid habitat impacts, it was determined that the JLOTS exercise would not adversely affect Puget Sound Chinook salmon (threatened), Hood
4.3.2 Ongoing Environmental Planning Efforts

4.3.2.1 Offshore Ranges

Other than the previously mentioned programmatic OEA for SINKEX events, there are no known on-going environmental planning efforts in connection with the offshore ranges.

4.3.2.2 On-shore/Land Ranges

**EA - Boardman Bombing Range Complex – New Weapons Training Ranges**

The Oregon Army National Guard has prepared a Draft EA for the Boardman Bombing Range Complex – New Weapons Training Ranges (National Guard Bureau 2005). The EA covers proposed construction and operation of two weapons training ranges and support areas at NWSTF Boardman. This proposed training area would provide a Multi-Purpose Training Range (MPTR) capable of allowing several different types of vehicles carrying different weapons to use the range at the same time and a Multipurpose Machine Gun Range (MPMGR). The project would provide training in live-fire exercises and small arms qualification for the Oregon Army National Guard. The EA describes NWSTF Boardman as an active bombing range for inert bombing use by Navy, Marine Corps, Air Force (F/A 18s, S-3As, F-15s, F-16s, and other aircraft). Occasional use of the range is by Army or Air Force helicopter gunnery and non-standard small arms training.

The National Guard Bureau supports the findings in its EA with pre-existing studies such as:

- Land Use Requirements Study (December 2003);
- Rare Plant Survey (2004);
- Cultural and Archeological Survey (2005);

The National Guard Bureau estimates that once the ranges become operational (approximately 2007-2008), the ranges would be used on weekends for unit Inactive Duty for Training (IDT) and Annual Training (AT) by approximately 4,000 soldiers on an annual basis.

The MPMGR would be used to train soldiers in the use of various small arms, up to and including .50 caliber rifles and machine guns. Targets would consist of stationary infantry targets, stationary armored targets and moving infantry targets. The MPTR would be used to train soldiers on foot and in vehicles in the use of various vehicle-mounted and ground-deployed weapons including, but not
limited to, small arms up to .50 caliber, 25mm cannons, 40mm grenade launchers, TOW missiles, and 120mm tank guns. The range may also be used for training by helicopter gunnery crews using 5.56mm and 7.62mm caliber machine guns.

The EA concluded that the proposed training range activities would not cause any significant adverse impacts given implementation of the proposed mitigation measures. Twelve (12) mitigation measures are proposed, including those that minimize fugitive dust, involve site restoration with native grass re-vegetation, avoid wildlife nesting sites, avoid WA ground squirrel nesting colonies, establish a ground squirrel monitoring plan, establish a shrub-steppe grassland ecosystem monitoring plan, propose a locked gate to control access to important cultural resources, call for UXO surveys and use of UXO free areas, contribute to Morrow County Public Works Department for road maintenance, and establish a Fire Management Plan.

4.3.3.2.3 NUWC Keyport Ranges

EIS/OEIS for NAVSEA Keyport Range Complex Extension

NUWC Keyport is currently preparing an EIS/OEIS for a proposed range complex extension. According to the NOI published in the Federal Register on September 11, 2003, the Navy needs to extend the NAVSEA Keyport Range Complex operating area to provide multiple in-water environments that meet the evolving operational requirements for manned and unmanned vehicle testing in Washington. The NAVSEA Keyport Range Complex is comprised of three marine ranging areas in the Pacific Northwest (Washington state): 1) The Dabob Bay Military Operating Area (MOA), two Hood Canal MOAs and the connecting waters known as the Dabob Bay Range Complex (DBRC); 2) the Keyport Range Site; and 3) the Quinault Range Site which is located within W-237A. The range extension is required in order to provide adequate testing area and volume in multiple marine environments to fulfill the NUWC Keyport mission of providing test and evaluation services in both surrogate and simulated war-fighting environments for emergent manned and unmanned vehicle program operations.

Four open house scoping meetings were held during the week of November 17, 2003. The DEIS team issued a newsletter in November 2004 providing an update on the status of the project and estimated that a DEIS would be available for public comment in late 2005. A second newsletter published in March 2006 noted that, due to other Navy priority NEPA efforts and changes in Navy guidelines, publication of the Draft EIS/OEIS was not anticipated until 2007. Concerns raised by the public during the scoping process included: safety of marine mammals, use of sonar, economic impacts to the region as a result of the inability to access fisheries, tourism and recreational activities. According to the posters available to the
4.3.3.2.4 EOD/NSW Ranges

The NWTRC EIS will include all current EOD ranges in its analysis. Additionally, a draft EA was produced for the Crescent Harbor EOD Underwater Training Range. It has since been decided to include environmental planning for this range in the NWTRC EIS. A Biological Opinion is currently being developed by the USF&WS and NOAA Fisheries for the Crescent Harbor EOD range. NSW training takes place on NAVSEA NUWC Keyport ranges and is covered in the NAVSEA Keyport Range Complex Extension EIS/OEIS.

4.3.3 Scope of Future Environmental Planning Efforts

Under the Tactical Training Theater Assessment and Planning (TAP) program, the Navy will initiate, if necessary, additional environmental planning documentation for the NWTRC. The analytical approach in this documentation will be “programmatic” in that it will address training operations repetitive in nature and occurring within the same geographical area. Existing environmental planning documentation will be incorporated by reference into any new programmatic environmental planning documentation.

Most training operations by other users of the NWTRC, including Marine Corps, Army, Air Force, Coast Guard, and foreign military, will conform to the baseline operations covered in the programmatic environmental planning documentation. Otherwise, the user will be required to fund and/or prepare supplemental environmental planning documents.

4.3.4 Environmental Planning Issues

The NWTRC planners are already actively engaged with regulators and have several NEPA documents in draft stages, so there are few environmental planning issues requiring mention. One recommended item is Navy representation within the OCNMS Management Plan review process, which began in 2006. Scoping meetings were held to shape the future of management priorities. The Navy can also shape action and management plans that are developed to address priority issues.

4.3.5 Environmental Planning Documents

Applicable environmental planning documents are described in Figure 4-9 below.
<table>
<thead>
<tr>
<th>Title</th>
<th>Range Covered</th>
<th>Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Impact Statement: Boardman Target Range, Oregon</td>
<td>NWSTF Boardman</td>
<td>1974</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Assessment for the Okanagan Military Operating Area</td>
<td>Okanagan MOA</td>
<td>1976</td>
<td>Complete</td>
</tr>
<tr>
<td>EIS and Supplement to Final Environmental Impact Statement (TRIDENT)</td>
<td>Pacific NW OPAREA</td>
<td>1977</td>
<td>Complete</td>
</tr>
<tr>
<td>Final Draft Environmental Assessment: Proposed Tideflat Impoundment NUWES, Keyport, Washington</td>
<td>Keyport Range Site</td>
<td>1984</td>
<td>Complete</td>
</tr>
<tr>
<td>Final Environmental Impact Statement for Carrier Battle Group Puget Sound Region Ship Homeporting Project</td>
<td>Pacific NW OPAREA</td>
<td>1985</td>
<td>Complete</td>
</tr>
<tr>
<td>Final Environmental Assessment for the A/0A-10 Beddown, McChord AFB, Washington</td>
<td>Olympic, Okanogan, and Boardman MOAs; Boardman NWSTF</td>
<td>1992</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Assessment for the Detonation Training Range, Naval Air Station, Whidbey Island, Seaplane Base</td>
<td>Seaplane Base EOD Demolition Training Range</td>
<td>1993</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Assessment of the Operational Testing Exercises at the Canadian Forces Maritime Experimental and Test Ranges, Nanoose, British Columbia</td>
<td>Nanoose Range Site</td>
<td>1996</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Assessment for Electronic Combat Training Facility at OLF Coupeville, Naval Air Station, Whidbey Island, Washington</td>
<td>OLF Coupeville</td>
<td>1997</td>
<td>Complete</td>
</tr>
<tr>
<td>Final EIS for Developing Home Port Facilities for Three NIMITZ-Class Aircraft Carriers in Support of the U.S. Pacific Fleet (Coronado, CA, Bremerton, WA, Everett, WA, Pearl Harbor, HI)</td>
<td>Pacific NW OPAREA</td>
<td>1999</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Assessment: Pier Replacement</td>
<td>Keyport Range Site</td>
<td>2000</td>
<td>Complete</td>
</tr>
<tr>
<td>NAVSEA Ranges and Test Sites: Theater Assessment Planning</td>
<td>Keyport Range Site, Nanoose Range Site, Dabob Bay Range Complex, and Quinault Range Site</td>
<td>2001</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Assessment for Ongoing and Future Operations at U.S. Navy Dabob Bay and Hood Canal Military Operating Areas</td>
<td>Dabob Bay Range Complex</td>
<td>2002</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Assessment: Autonomous Underwater Vehicle (AUV) Fest, Keyport Range, WA</td>
<td>Keyport Range Site</td>
<td>2003</td>
<td>Complete</td>
</tr>
<tr>
<td>Title</td>
<td>Range Covered</td>
<td>Date</td>
<td>Status</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------------</td>
</tr>
<tr>
<td>Environmental Assessment: Installation and Operation of Underwater Surveillance System (USS) at Naval Base Kitsap at Bangor Silverdale, Washington</td>
<td>None, but the Floral Point Underwater EOD Range is located adjacent to the EA project area at SUBASE Bangor</td>
<td>2005</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Assessment Update: Canadian Forces Maritime Experimental and Test Ranges, Nanoose, British Columbia</td>
<td>Nanoose Range Site</td>
<td>2005</td>
<td>Complete</td>
</tr>
<tr>
<td>OEA: Sinking Exercise (SINKEX) July 2005</td>
<td>Pacific NW OPAREA</td>
<td>2005</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Assessment for Replacement of EA-6B Aircraft with EA-18G Aircraft at Naval Air Station Whidbey Island, Washington</td>
<td>OLF Coupeville; Darrington OPAREA; All MOAs; Boardman NWSTF; W-237</td>
<td>2005</td>
<td>Complete</td>
</tr>
<tr>
<td>Marine Resource Assessment for the PACNW Surface/Subsurface OPAREA</td>
<td>Pacific NW OPAREA</td>
<td>TBD</td>
<td>In Progress</td>
</tr>
<tr>
<td>Draft Environmental Assessment: Boardman Bombing Range Complex New Weapons Training Ranges</td>
<td>NWSTF Boardman</td>
<td>TBD</td>
<td>In Progress</td>
</tr>
<tr>
<td>NAVSEA Keyport Range Complex Extension</td>
<td>Dabob Bay Range Complex, Keyport Range Site, W-237 (including the Quinault Range Site)</td>
<td>TBD</td>
<td>In Progress</td>
</tr>
<tr>
<td>Programmatic OEA for Sinking Exercises</td>
<td>Pacific NW OPAREA</td>
<td>TBD</td>
<td>In Progress</td>
</tr>
</tbody>
</table>

Figure 4-9. Environmental Planning Documents for NWTRC

4.4 LAND USE PLANNING AND RESOURCE MANAGEMENT

4.4.1 State and Local Planning and Land Use Laws and Ordinances

4.4.1.1 State Land Use Laws

Washington State Land Use Laws

It's been 11 years since Washington enacted its Growth Management Act (GMA) (RCW 36.70A.130), one of the most comprehensive and modern planning statutes in the country. While there is consensus that the law is slowing sprawl and guiding growth out of rural lands and into urban growth areas, each year different interest groups offer changes to the 1990 law. The GMA requires state and local governments to manage Washington’s growth by identifying and protecting critical areas and natural resource lands, designating urban growth areas, preparing comprehensive plans and implementing them through capital investments and development regulations. This approach to growth management is unique among states.

In a Summary Report dated 2004 entitled, “Washington State and its Partnership with the US Military Installations” then Governor Gary
Locke instructed local governments to prohibit inappropriate
development in the vicinity of military installations that would
interfere with the base’s ability to perform its mission. In addition,
cities or counties considering amending their comprehensive plans or
development regulations regarding properties adjacent to military
installations are required to notify the base commander of the
intended amendment and to allow 60 days for comment on the
proposed change. This provides a means for local governments to
stay informed of the needs of the military.

**Oregon Land Use Laws**

In 1973, the Oregon legislature replaced the basic land use planning
program with a much more extensive one. With Senate Bill 100, the
1973 legislature created the Land Conservation and Development
Commission and directed it to establish new statewide planning
goals and guidelines “not later than January 1, 1975.” The
legislation listed 11 “areas and activities” which were to be given
“priority consideration” as the new commission developed its goals.
The list of goals has now grown to 19, including several coastal
resources goals.

County planning and zoning regulations are contained in ORS
Chapter 215. Section 215.050 states, “(1) Except as provided in
ORS 527.722, the county governing body shall adopt and may from
time to time revise a comprehensive plan and zoning, subdivision
and other ordinances applicable to all of the land in the county.” The
plan and related ordinances may be adopted and revised part by part
or by geographic area. More information about Oregon’s Morrow
County Comprehensive Plan is provided in a subsequent subsection.

**Alaska State Land Use Laws**

When Alaska became a state in 1959, the state received 28% of the
375 million acres of land. In 1971, Congress passed the Alaska
Native Claims Settlement Act (ANCSA) which granted 44 million
acres to Native American corporations and villages. The federal
government retained ownership to 60% of the state (222 million
acres) for national parks, refuges, forests, military reservations, and
petroleum reserves. Private land area (other than Native Corporation
lands) comprises less than 1% of the state.

Within the Kodiak Island Borough, 13% of the land is owned by
Native Corporations, including those whom permit NSW training
under license agreements. The Alutiiq people participated in the
ANCSA in 1971 and 2,500 live in the Kodiak Archipelago (Kodiak
Island Borough 2006).

Alaska Statutes (AS) 29.40.030 requires first and second class
boroughs in Alaska to compile policy statements, goals, standards,
and maps guiding the physical, social, and economic development,
both public and private, including but not limited to 1) statements of
policies, goals, and standards, 2) a land use plan, 3) a community
facilities plan, 4) a transportation plan, and 5) recommendations for
implementation of a comprehensive plan. AS 29.40.040 grants
localities the power to develop zoning ordinances and other land use
regulations to further the goals of the comprehensive plan.

A number of AK state agencies also have land use regulatory
authority. The Alaska Department of Natural Resources (ADNR),
Alaska Department of Fish and Game, Alaska Department of
Transportation and Public Facilities (ADT&PF), and Alaska
Department of Environmental Conservation (ADEC) all play a role
in regulating land use within the Kodiak Island Borough. ADNR is
primarily responsible for managing state owned land and resources,
including oil and gas, water and tidelands, and has recently
completed a Management Plan for state-owned lands in the Borough.
Its Division of Forestry also regulates timber harvest and
reforestation of Borough and private land (Kodiak Island Borough
2006).

ADFG has the authority to review activities that affect fish bearing
streams, wetlands, or state owned fish and wildlife habitat areas.
ADEC also has the authority to review a number of land use
activities that can affect water quality, including water supply and
sewage disposal systems, subdivision plats, oil spill contingency
plans and solid waste disposal sites. ADT&PF has asserted the
prerogative to regulate land use and building construction on state
land (leased from the USCG and subleased to private operators) that
is part of the Kodiak State Airport terminal area. This includes all
aircraft terminal facilities and other nearby facilities (Kodiak Island
Borough 2006).

4.4.1.2 Local Land Use Laws

Island County Comprehensive Plan

The Island County Comprehensive Plan was adopted in 1998 in
accordance with the Washington State Growth Management Act.
The plan was established to manage growth in the county through the
year 2020. As mandated under RCW 36.70A.070, the elements
addressed include Land Use, Rural, Housing, Capital Facilities,
Utilities, Transportation, and Shoreline Management. Several
optional elements are addressed in the plan as well, including Parks,
Recreation and Open Space, Natural Lands, Historic Preservation,
and Water Resources (Board of Island County Commissioners et al.
1998). The Comprehensive Plan acknowledges the county’s
association with NAS Whidbey Island, as well as the impacts
associated with aircraft operations at Ault Field and OLF Coupeville.
The plan designates an “Airport and Aviation Safety Overlay,”
which recommends that future land use adjacent to Ault Field and
OLF Coupeville be maintained as rural and rural agricultural.
These areas are designated rural and rural agricultural to encourage low-density development within the air station’s noise zones. Island County adopted the noise contours from the 1993 noise study as published in the Draft Environmental Impact Statement (EIS) for the Management of Air Operations at NAS Whidbey Island (U.S. Department of the Navy 1993) to implement the Airport and Aviation Safety Overlay district through the county’s zoning ordinance and other elements of the Island County Code. Existing land uses and zoning are consistent with the Navy’s recommendations for land use compatible within the Accident Potential Zones (APZ), although specific regulations have not yet been adopted for that purpose. However, the goals and policies exist in the county’s Comprehensive Plan to support the adoption of codes for compatible development within the APZ. Consistent with the Comprehensive Plan for land uses impacted by aircraft operations, Island County has adopted a Zoning Ordinance; an Airport and Aircraft Operations Noise Disclosure Ordinance for property sold, rented, or leased within the noise zones around Ault Field and OLF Coupeville; and a Noise Level Reduction Ordinance to specify minimum standards for building construction within the noise zones around Ault Field and OLF Coupeville. In addition, to help ensure the safety of aircraft operations, the county has adopted a Signs and Lighting Ordinance that is designed to help preserve the dark skies and rural character of the county.

City of Oak Harbor Comprehensive Plan

The City of Oak Harbor Comprehensive Plan was adopted in 2003 in accordance with the Washington State Growth Management Act. The plan was established to manage growth in the city through the year 2013. As mandated under RCW 36.70A.070, the elements addressed include Land Use, Housing, Capital Facilities, Utilities, Transportation, and Shoreline Management, as well as several optional elements.

The Comprehensive Plan contains goals and policies that address the Navy’s Air Installation Compatible Use Zone (AICUZ) land use compatibility recommendations, and an element on “City of Oak Harbor and Naval Air Station Whidbey Island Community Cooperation,” which supports growth and development compatible with operations at Ault Field. The AICUZ recommendations are implemented through the city’s adopted Aviation Environs Overlay Zone, noise attenuation standards, and noise disclosure requirement in the municipal code. Land uses within the Aviation Environs Overlay Zone are designated for low-density development.

The City of Oak Harbor adopted the noise contours from the 1993 noise study as published in the Draft EIS for the Management of Air Operations at NAS Whidbey Island (U.S. Department of the Navy 1993) to implement the Aviation Environs Overlay Zone through the city’s Zoning Ordinance and other elements of the municipal code.
Existing land use and zoning are consistent with the Navy’s recommendations for land use compatible within the APZ.

**Town of Coupeville Comprehensive Plan**

The Town of Coupeville Comprehensive Plan was adopted in 2003 in accordance with the Washington State Growth Management Act. The plan was established to manage growth in the town through the year 2013. As mandated under RCW 36.70A.070, the elements addressed include Land Use, Housing, Capital Facilities, Utilities, Transportation, and Shoreline Management, as well as several optional elements. The town has not adopted any policies or goals designed specifically to ensure development compatible with AICUZ recommendations. However, the goals and policies of the Comprehensive Plan and current zoning for the town foster minimal development on the east, where aircraft noise from OLF Coupeville has a greater impact. The plan also recommends infill development in the central core of the town, where aircraft noise has less of an impact.

**Morrow County Comprehensive Plan**

The latest available Morrow County Comprehensive Plan (1987) classifies NWSTF Boardman as 2A (no conflicting use). The plan notes that the 73-square-mile Boardman Bombing Range is unique in that the range contains: 1) relict grassland communities (i.e., native grasses undisturbed by agricultural practices), 2) the only known colony of Washington Ground Squirrels in Oregon, and 3) a portion of the Oregon Trail and an historic cemetery. It further notes that the US Navy administers the range; part is used for bombing practice, part leased for grazing and part (3 separated parcels; A, B and C) managed as a Natural Research Area (NRA).

It is unclear at this time how plans set forth in the Morrow County Comprehensive Plan or land use plan may affect development near NWSTF Boardman.

**Kitsap County Comprehensive Plan**

The Kitsap County Comprehensive Plan was adopted May 7, 1998, and amended June 10, 2002, December 8, 2003, and October 25, 2004. The plan is currently undergoing a 10-year review, with public input meetings due to take place during most of 2006. The current plan recommends diversifying the county’s economic base to become less dependent on the U.S. Navy. Kitsap County’s economy relies heavily on employment by the federal government at five military installations and facilities and by military-related businesses. In 1995, these facilities employed approximately 33% of the total work force in Kitsap County. The Kitsap County land area includes SUBASE Bangor, NUWC Keyport, and abuts the NUWC Keyport ranges: Hood Canal and Keyport Range Site.
One stated open-space policy (OS-17) is to “work with the federal government to preserve open space on military properties.” The comprehensive plan includes a section on Natural Systems and establishes goals and policies related to: 1) Geologically Critical Areas; 2) Aquifer Recharge Areas; 3) Surface Water Resources; 4) Frequently Flooded Areas; 5) Plant, Fish and Wildlife Habitat Conservation Areas; and 6) Air Quality. The framework for the Natural Systems section is based on the goals of the Growth Management Act, Destination 2030 and the Kitsap Countywide Planning Policies. Specifically, the Growth Management Act requires comprehensive plans to protect the environment and enhance the state’s high quality of life, including air and water quality and the availability of water (Kitsap County 1998, amended 2004).

**Jefferson County Comprehensive Plan**

The Jefferson County Comprehensive Plan is a decision-making tool for officials and citizens in guiding future growth and development in Jefferson County on a 20-year planning horizon. It provides the policy basis for the Unified Development Code, capital facilities improvements, and other County endeavors. The plan underwent substantial update and revision in 2004. Pursuant to the Growth Management Act at RCW 36.70A.130(4), Jefferson County was required to review and, if necessary, revise its Comprehensive Plan and implementing regulations by December 1, 2004. Although the mandatory update focused on issues such as population projections and capital facilities planning, as a complementary project the County updated and streamlined the entire Comprehensive Plan initially adopted in 1998 (Jefferson County 2004).

The Jefferson County area includes NAVMAG Indian Island, and it borders the NUWC Keyport ranges: Hood Canal and Dabob Bay. The plan attempts to balance land use development with environmental protection. It includes four main strategies to achieve this goal: 1) Watershed and Fish Habitat Recovery Management Strategy, 2) Regulatory Strategy for Consolidated Environmental Review, 3) Critical Areas Protection Strategy, and 4) Public Education and Involvement Strategy. The first of these strategies focuses on the Hood Canal Summer Chum Salmon, Puget Sound Chinook Salmon, and bull trout, all listed as threatened under the Endangered Species Act (Jefferson County 2004).

Several of the comprehensive plan policy statements lend themselves to cooperative efforts between the County and federal agencies, such as the Navy. One stated water resource policy (ENP 1.2) is to, “Participate in the Jefferson County Water Resources Council and other collaborative watershed and salmon habitat conservation planning processes with state, federal and tribal governments and local stakeholders, in order to integrate water resource management for human needs with fish and wildlife habitat protection and
restoration.” ENP 2.3 strives to “Protect surface water and its functions through mitigation measures developed in coordination with the Department of Ecology, the Department of Transportation, and other local, state, federal, and tribal agencies.” The Natural Resource Conservation Element policy (NRP) 1.6 states, “Support cooperative resource management among natural resource landowners, environmental groups, state, federal and tribal governments.”

Kodiak Island Borough Comprehensive Plan

The Kodiak Island Borough is in the process of updating its current Comprehensive Plan, which was originally prepared in 1968. After a period of public input, the plan is expected to be finalized in 2007. The draft plan notes the NSW presence on the island as a US Coast Guard tenant. One goal noted in the land use section of the Comprehensive Plan is, “Maximize compatibility of adjacent land uses and minimize conflicts through zoning, buffering, design standards and other means (Kodiak Island Borough 2006).”

The population on Kodiak Island has stabilized over the past ten years at between 13,500 and 14,000 residents. Land use or development pressure around NSW training areas does not appear to be an issue at this time.

4.4.2 Land Use Planning

Volume I of this document outlines the Navy’s Air Installations Compatible Use Zones (AICUZ), Range Air Installations Compatible Use Zones (RAICUZ), and Regional Shore Infrastructure Plan (RSIP) programs. The various types of real estate instruments potentially applicable to range complex assets are also described in Volume I. Specific information related to the NWTRC is provided below.

4.4.2.1 Air Installations Compatible Use Zones (AICUZ)

An AICUZ Study Update for NAS WI’s Ault Field and OLF Coupeville, Washington was completed in March 2005. The noise study used calendar year 2003 and calendar year 2013 noise contours for aircraft operations associated with the use of the two Navy airfields and the proposed transition from the EA-6B to the new EA-18G aircraft (NAVFAC SW 2005). The study notes only modest changes in noise contours. More substantial changes in the APZ have occurred due to changes in operations and updated operator descriptions of flight tracks. Local communities have enacted commendable AICUZ related land controls, including: compatible land use zoning, sound reduction provisions in the building code, and noise fair disclosure provisions for rental or purchase of real estate. AICUZ study recommendations include:

1. Maintaining a Community Planning Liaison for AICUZ program implementation,
2. Continued public awareness and intergovernmental coordination,
3. Support for local planning and zoning ordinance updates to
   reflect compatible land use related to changes in the APZ,
4. Support for maintaining aircraft noise related compatible land
   use and zoning provisions, and
5. Encouraged implementation for AICUZ land use compatibility
   recommendations with the Town of Coupeville.

4.4.2.2 Range Air Installations Compatible Use Zones (RAICUZ)

The only RAICUZ Study in the NWTRC is for NWSTF Boardman,
and it is dated (DoN 1987). The RAICUZ study depicts the location
of VR 1350, 1351, 1353, 1354 and 1355 intersecting with the range.
It also depicts IR 342, 344 and 346 intersecting with the range, with
IR 341 and 343 located NE of the range, but not intersecting with it.
The RAICUZ study also illustrates the restricted areas (R-5701 and
R-5706) overlying the range and areas east, west, and north of the
range. Avigation easements are also shown under R-5701.

The RAICUZ study notes that NWSTF Boardman includes static
targets, laser guidance equipment, and a moving land target. The
targets are supported by spotting towers, as well as maintenance,
administration and other supporting facilities. The range is described
as important for Gruman A-6 Intruder aircraft training, with features
such as laser alignment board at the main target, and electric scoring
for the mobile land target and main bull. The range is said to operate
five, and sometimes six, days and/or nights a week. In 1984, there
were 15,391 operations (or an average of 62 per day).

After mapping the Range Safety Zone (RSZ) A, B and C and setting
forth tables for land use compatibility given safety and noise
concerns, the RAICUZ study concluded noting that land use and
zoning (existing and proposed by the County [Morrow]) around the
range are basically compatible with the recommended land use
guidelines contained in the study. As follow-on Navy actions, the
RAICUZ study recommends:
1. Community information programs (utilizing slide presentations,
brochures, reports, newsletters and press releases),
2. Community interaction (with periodic Navy information
   programs on changes in NWSTF operations),
3. Maintenance of a Noise Complaint Log and response program,
4. Monitoring Programs (with an eye on zoning changes,
   comprehensive plan changes, land sales, EISs, changes in
   building codes, BLM plans, land ownership conversions, and
   newspaper articles), and
5. Involvement of a Community Planning Liaison.

4.4.2.3 Regional Shore Infrastructure Planning (RSIP)

The Navy Region Northwest Regional Overview Plan (2004) is the
region’s RSIP, which presents an overview of shore infrastructure
and identifies existing facility conditions and potential future
requirements based on the operational needs within Navy Region Northwest. Draft Chapter 3 of the RSIP (Ranges and Operating Areas Overview) provides descriptions of the various NWTRC ranges (e.g., location, size, types of operations supported, and ordnance authorized). This particular document is an update of RSIP Phase I which has as its primary purpose to identify, update, and integrate the findings of the functional studies that have been completed since the original overview plan in 1999. Numerous functional studies have been completed for CNRNW. The RSIP describes the Bangor EOD demolition training range and the small arms range at Ault Field as specialty land ranges also worthy of protection. The range overview section concludes with a brief description of the proposed NAVSEA Keyport Range Complex Extension EIS and the controversy over low frequency sonar use.

### 4.4.2.4 Real Estate Use and Agreements

**NWSTF Boardman**

The Department of the Navy and The Nature Conservancy (TNC) signed a Cooperative Management Agreement in 1988. This agreement defines a cooperative arrangement between the organizations for managing Research Natural Areas (RNA) on the range to preserve high quality examples of Columbia River Basin grassland and steppe vegetation communities and associated wildlife. Under the agreement TNC establishes grass plots and monitors them, controls weeds, encourages research, and maintains fences around the RNA (DoN 1988).

**Joint Canada/US Agreement (1965) and Memorandum of Understanding Between the U.S. Department of the Navy and the Canadian Department of National Defense Concerning Supplementary and Administrative Arrangements for the Operation of the Torpedo Test Ranges in the Strait of Georgia and Jervis Inlet, British Columbia (2002)**

A series of agreements between the US and Canada have governed the shared use of range time and responsibilities associated with the NanOOSE Range Site (including area WG and WN in the Strait of Georgia and the Jervis Inlet). A cooperation agreement was established in May 1965. This agreement is renewed every 10 years and the next date of renewal is 2009. Memoranda of Understanding supplement the cooperative agreement and set out administrative arrangements. Section VII of the 1994 amendment states that the “USN will be bound by and comply with the Canadian environmental law and policies when using the Range, to the same extent as the Canadian Forces. Commanding Officer, CFMETR will be responsible for informing NUWC Keyport of the environmental requirements for range operations.” The 2002 Amendment
supersedes previous amendments and contained the following Section VII:

“The participants will adopt and maintain protocols that ensure responsible environmental stewardship. Specifically, standardized procedures to ensure prevention, response, and mitigation of environmental damage will be adopted. This will include guidelines for exercising associated response teams in various related scenarios. These guidelines will include, but not be limited to, range operating policies and procedures, test plan and development and approval, range systems installation and maintenance operations orders, and range craft and visiting ship operating procedures.”

The use of the Nanoose Range Site by the US has been the subject of a degree of public scrutiny in Canada. Concerns have been raised by commercial fishery groups and environmental groups concerned about the presence of nuclear submarines in Canadian waters. After Canadian anger over alleged failure by the US to comply with the Pacific Salmon Treaty, the Premier of British Columbia sent a notice of license cancellation to the Prime Minister of Canada (Chrétien). This notice was intended to cancel the license granted by British Columbia to the Canadian federal government for the seabed under the Nanoose Range Site. The Canadian federal government sued British Columbia in the Supreme Court of British Columbia in August 1997 for a declaration that the Notice of Cancellation is invalid and for other damages. Subsequently, in the summer of 1999, an intense public debate began over Canada’s decision to expropriate the Nanoose Bay seabed to take federal ownership of the range area from the Province of British Columbia. In 2002, the expropriation decision was successfully challenged in the [Canadian] federal court by the Society Promoting Environmental Conservation, but that decision was subsequently overturned. Currently, the expropriation of the seabed stands. The water column and the seabed in the WG area are considered (Canadian) federal lands and are subject to (Canadian) federal laws (CFMETR 2005).

The following Canadian environmental laws/policies may influence operations at CFMETR: the Canadian Environmental Protection Act, the Fisheries Act, the Species at Risk Act, Department of Defence Policy Framework, Manoeuvre Area Planning System Protocol, DND Directives, CFMETR Policy Framework, International Agreement, Provincial Legislation, and Municipal Legislation (CFMETR 2005). The CFMETR EA Update recommends seeking legal opinions on CFMETR exemptions from certain portions of these laws. It further notes that although CFMETR is not required to meet provincial and municipal regulations due to its federal status, it should strive to meet the spirit of the regulations.
Kodiak Cold Weather Training Facility

The Kodiak Cold Weather Training Facility (CWTF) on Kodiak Island, Alaska is leased by NAVFAC NW (for Naval Special Warfare Center) from the U.S. Coast Guard. The 130 acres leased through the year 2021 is located on the northeast tip of Kodiak Island, Alaska (DOT 2000). This area is on the Spruce Cape portion of the island (formerly the Coast Guard Loran Station).

The lease agreement contains many standard provisions found in a typical lease between a landlord and a tenant. In the permit amendment the Navy further agrees to exercise due diligence in their use of the permitted premises, implement appropriate environmental protection measures for the wetland and archeological sites, and ensure full compliance with the coordination requirements of the following laws:

- Archeological Resource Protection Act of 1979 (16 USC 470aa-470ll as amended)
- National Environmental Policy Act of 1969 (42 USC 4321-4370 as amended)
- Archeological and Historical Preservation Act of 1974 (16 USC 469 as amended)
- Clean Water Act – Wetlands (40 CFR 404, as amended; Executive Order 11990)

In addition to the main lease agreement, data collection efforts have revealed the existence of three other known real estate agreements that are either executed or under negotiation. These agreements relate to a few of the remote training ranges used by NSW. The agreements are summarized as follows:

1. **License Agreement for the Use of Leisnoi Native Corporation Property in Kodiak, Alaska (1995)**. This license has no specified termination date, and it allows NSW Group One to utilize the Leisnoi Native Corporation property for cliff negotiation training and beach landings. Blank ammunition is authorized, but no live fire or explosives are permitted.

2. **License Request for the Use of Afognak Native Corporation Property in Kodiak, Alaska (1997)**. This correspondence from NAVFAC NW was for NSW use of three tracts of Afognak property on a limited basis for the NSW training (e.g., use of small boats to land and retrieve training personnel on and from beaches, navigation, contact drills, and communication training). It was suggested that only blank firing would be used. It is not known whether the request was granted by the Afognak Native Corporation.

3. **Land Use Permit for the Use of USCG Property for Overland Navigation by Navy Students (2006)**. This permit was for a period of time from 20 January 2006 to 1 July 2006. The permit authorized NSW training over a portion of a Lot 44 US Survey 2539 Page 18 in the vicinity of Cliff Point. The
permit specifically excluded the northern portion of the lot from
use due to the presence of culturally sensitive archeological sites.

4.4.3 Resource Management

Resource management is the means of conserving, protecting, and
restoring the environment, including the natural and cultural
resources, while ensuring military readiness and sustainability. The
basis for environmental management in the NWTRC is ecosystem
management, which takes a long-term view of human activities,
including military uses, and considers biological and cultural
resources as part of the same environment. The planning documents
that implement this management approach are integrated natural
resources management plans (INRMPs) and integrated cultural
resource management plans (ICRMPs).

4.4.3.1 Integrated Natural Resource Management Plans (INRMPs)

The Navy has completed Sikes Act-compliant INRMPs for all
NWTRC assets requiring INRMPs. INRMPs are not required for the
at-sea OPAREAS, water-based targets, or private facilities.

NWSTF Boardman

An INRMP was prepared for NWSTF Boardman in 1999, in
compliance with the Sikes Act Improvement Amendments (SAIA).
An INRMP update is now underway for NWSTF Boardman with an
expected completion date of late-2007. The following are some of
the highlights from the 1999 INRMP: NWSTF Boardman is habitat
for the Washington ground squirrel, a species that the USFWS has
determined to be a candidate for listing as a federally threatened or
endangered species under the ESA. Candidate status does not
provide species protection under the ESA listing process, and neither
consultation nor conference, formal or informal, is required.
However, USFWS encourages federal agencies to consider
implementing conservation measures for candidate species, because
these measures may help avoid the future necessity of listing. The
only rare plant species with federal status within the NWSTF
Boardman area is Laurence’s milk-vetch, a federal species of
concern; however, this designation does not provide species
protection under the ESA.

A variety of migratory bird species are located on or migrate through
NWSTF Boardman and are protected by the Migratory Bird Treaty
Act and EO 13186. Because NWSTF Boardman has a limited
hunting program, 10 United States Code (U.S.C.) §2671 (Military
reservations and facilities: hunting, fishing, and trapping) applies.
EO 13112 applies to the management of invasive species such as
cheatgrass at NWSTF Boardman.
Ault Field, Seaplane Base, OLF Coupeville, and Lake Hancock

An INRMP for NASWI was prepared in 1996 in accordance with the SAIA requirement. An INRMP update is underway, but will not be available until early 2007. The INRMP presents 1) the environmental constraints on planning presented by ecologically sensitive areas and 2) a management approach to protecting resources while accommodating land uses and activities vital to the station mission. The NAS Whidbey Island INRMP covers four (4) land areas, including: Ault Field, Seaplane Base, OLF Coupeville, and Lake Hancock.

Ault Field

Ault Field is the command center for NAS Whidbey Island. Though it is not a range covered in this RCMP, it is mentioned briefly here as it was included in the 1996 NAS Whidbey Island INRMP. Ault Field is 4,253 acres and, though highly developed, it includes a wide variety of natural resources. Some INRMP management recommendations include: wetland enhancements; fuel spill control measures; preservation of native dune plant communities at Rocky Point; invasive weed control; plant species inventories; landscape management, forest thinning and reforestation; streamside management; protection of bald eagle habitat and great blue heron habitat; and provision of outdoor education.

Seaplane Base EOD Demolition Training Range

The range is not known to be habitat to any wildlife or plant species of regulatory importance. Although three pairs of federally threatened bald eagles are known to nest on the Seaplane Base, the closest nest is approximately 7,000 feet south, on Polnell Point. A potential winter night bald eagle roost site was identified in the forested portion of the “Survival Area” approximately 1,000 feet north of the range (Navy 2000). Range activities do not appear to trigger ESA requirements.

The bird habitat of the EOD Demolition Training Range is marginal, but birds could forage in the grasses within its boundaries. Migratory birds are protected by the Migratory Bird Treaty Act and EO 13186. Because no hunting is conducted within the range boundaries, 10 U.S.C. §2671 (Military reservations and facilities: hunting, fishing, and trapping) does not apply to the EOD Demolition Training Range. Executive Order 13112 (Invasive Species, February 3, 1999) applies to any management of invasive species at the range. The 1996 INRMP identified Scot’s broom (Cytisus scoparius) for eradication from the oak woodland area by hand pulling and root removal. Other plant species identified as invasive were: Spartina, gorse (Ulex europaeus), fennel (Foeniculum vulgare), and tansy ragwort (Senecio jacobaea) (NAS WI 1996).
OLF Coupeville

According to the EA for the EA-18G, OLF Coupeville consists of a 5,400-foot runway, which is used primarily for FCLP operations. Other military training operations conducted at OLF Coupeville include helicopter, parachuting, and ground training. Most of the OLF’s 664 acres consist of undeveloped open space and agricultural outleases. A Natural Resources Management Plan was completed for OLF Coupeville in 1989. The Natural Resources Management Plan notes that birds and deer should be discouraged due to air strike hazard. Two Bald eagle nests are located within one mile of the OLF, but eagle visits to the OLF are not likely to be interrupted because the eagles tend to visit during the day, while flights occur mostly at night. Aircraft noise does not appear to be a problem for the eagles either and shouldn’t be a problem in the future unless flight patterns are changed or volume is significantly increased (USDA 1989).

The NAS Whidbey Island INRMP (1996) also covers OLF Coupeville. Its management recommendations include, in summary: 1) quarterly monitoring of groundwater quality, 2) biannual inventories of white-top aster (federal candidate species for ESA listing), 3) management of Canada thistle (Cirsium arvense, an invasive weed species), 4) tree and shrub planting around buildings subject to BASH plan and tree height limitations, 5) various forest unit thinnings, and 6) agricultural outlease recommendations regarding groundwater pollution prevention and alignment with the installation BASH goals.

Lake Hancock

The NAS Whidbey Island INRMP (1996) covers the Lake Hancock range. The range is described as almost entirely undeveloped, consisting mostly of forest and wetlands. The range is listed on the Washington Register of Natural Areas. This listing came after an agreement between the Navy and the Nature Conservancy in 1992. In addition to high quality natural features, the range received the listing in part due to adequate buffering from nearby development. The range is off limits to public access due to the potential hazard of unexploded spotting charges on practice ordnance dropped in the past. Though the range is no longer used for target bombing practice, an area offshore on Admiralty Inlet is used for target practice with inert ordnance. The management emphasis for the Lake Hancock range is for hands-off protection of the site. Management recommendations for the wetlands include control of invasive Spartina by means of spot application of the herbicide, Rodeo®. Broad spraying should be avoided to protect water quality. Though no threatened and endangered plant species have been identified at the Lake Hancock range, the INRMP recommends protection of the wetlands for potential habitat. Forest management recommendations are for forest preservation, and maintenance of bald eagle habitat.
Bald Eagle Management Plan

NAS WI also has a Bald Eagle Management Plan. The plan was carried out in cooperation with the Washington Department of Fish and Wildlife. One year of eagle monitoring revealed that 19 eagles use portions of Ault Field, Seaplane Base, and Lake Hancock on nearly a daily basis. NAS WI formulated a set of management measures designed to: improve habitat through forest and wetland management, minimize disturbance to eagles at critical times of the year, minimize direct hazards to eagles and provide long-term monitoring (NAVFAC NW 1996b). The plan notes that Lake Hancock is managed for wildlife and is used only on rare occasions for military purposes. The plan identifies military activities occurring at Ault Field as: aircraft take-offs and landings, small firearm and rifle practice, fire fighting training, and military housing. In addition to the presence of military housing and the EOD area, the plan identifies military activities at Seaplane Base as: fuel barge activity, military survival training, small boat training, and helicopter search and rescue training. Eagle perching sites were identified within the Military Survival Training area at Seaplane Base, near the small arms and rifle ranges at Ault Field, and at a few scattered trees throughout the Lake Hancock range. The Plan identified a few operational activities that have historically affected bald eagle habitat, including: aircraft operations, search and rescue training at Crescent Harbor and Seaplane Base (involving low-level helicopter flights), EOD demolition training range at Seaplane Base (which involve approximately 15 detonations per week), the EOD activities that occur in Crescent Harbor (which effectively eliminate foraging habitat from bald eagles for short periods of time), and military survival training at Seaplane Base. On the other hand, land restorative activities have occurred as well, which provide additional bald eagle habitat.

SUBASE Bangor

The Explosive Ordnance Detachment (EOD SUBASE) occasionally performs underwater detonation for training purposes. According to the Subase Bangor INRMP, this activity will be coordinated with all Endangered Species Act requirements for the listed salmonids. Other groups such as Construction Battalion and Marines occasionally hold training exercises in forested areas. These training areas are monitored for compatibility with natural resource management and protection.

According to the Subase Bangor INRMP, Site A on the Subase is an Installation Restoration Site. The soils in this area were found to contain TNT and RDX concentrations derived from past activities when this area was an EOD burn site. The soils have achieved cleanup levels and there are two 120,000-gallon open-air storage tanks that will be converted to a trout hatchery.
4.4.3.2 Integrated Cultural Resources Management Plans (ICRMPs)

A systems approach to historical and archeological resource management has also been implemented through ICRMPs. The plans are patterned after the INRMPs and are aimed at cultural resource management to comply with applicable laws and regulations, while ensuring the capability of the installation to support the military mission.

**NWSTF Boardman**

Numerous archaeological surveys of various portions of NWSTF Boardman have been conducted since the 1960s. These surveys have identified cultural resources in the form of archaeological and historic sites, and artifacts. The Wells Springs Segment of the Oregon Trail was listed on the National Register in 1978. Features identified in the National Register listing include (NAVFACT NW 1994d):

1. the seven miles of continuous wagon ruts in a corridor 200 feet on each side of the trail;
2. the Well Spring site;
3. remnants of a stagecoach station; and
4. a cemetery which dates from the Oregon Trail migration.

Additional sites at NWSTF Boardman have been determined to be eligible for listing on the National Register. The sites that are eligible for listing include: 1) The Tub Springs site (a northern segment of the Oregon Trail which includes historic and prehistoric artifacts) and 2) The Juniper Canyon Archeological Site (a site containing bones from a prehistoric camel (“yesterday’s camel”). No sacred items of cultural significance have been identified at NWSTF Boardman. DoDINST 4715.3 requires the preparation, maintenance, and implementation of ICRMPs for DoD facilities. A Historical and Archeological Resources Protection (HARP) Plan exists for NWSTF Boardman, and an ICRMP is currently in draft form (at the 90% completion stage).

**Lake Hancock Target Range**

The 1997 Archaeological Resources Assessment and Protection Plan for the Naval Air Station Whidbey Island found two properties within Lake Hancock to be National Register Eligible under Criterion (d) (NAVFACT NW 1997a). These resources appear to contain intact prehistoric shell midden or lithic scatter deposits in relatively undisturbed areas. One disturbed site at Lake Hancock appeared ineligible for listing in the National Register. The Plan recommended consultation with a professional archaeologist to:

- Inventory cultural resources in each Area of Potential Effect;
- Determine which resources are eligible for listing in the National Register of Historic Places, evaluate project effects on eligible resources, and develop measures to avoid or mitigate the adverse effects; and
• Assist NASWI to develop a plan to provide protection or mitigation for National Register-eligible resources potentially affected by continued base operations.

Seaplane Base EOD Demolition Training Range

Cultural resources surveys of the Seaplane Base have identified archaeological sites, archaeologically sensitive areas, and ethnographically named places within its boundaries. Several properties appear to be eligible for listing on the National Register (NAVFAC NW 1997a). However, no cultural resources have been identified on the EOD training range itself. The State of Washington Office of Archaeology and Historic Preservation has indicated (by letter dated July 29, 1991) that they concur that no archeological resources are located at the proposed project sites (NAS WI 1993). DoDINST 4715.3 requires the preparation, maintenance, and implementation of ICRMPs for DoD facilities. A HARP Plan (1994) and an Archeological Resources Assessment and Protection Plan (1997) have been prepared for NAS WI facilities, including Seaplane Base.

4.4.3.3 Additional Studies and Plans

Canadian Forces Base (CFB) Esquimalt Facilities

An Environmental Baseline Study was performed in 1992 of Canadian Forces Base Esquimalt Facilities, including the CFMETR located in Nanoose Bay, which includes the main Nanoose Range Site (Whiskey Golf [WG]), Jervis Inlet (Whiskey November [WN]), and a small range at Hotham Sound. The ranges are described as primarily for testing of torpedoes and sonobuoys, but also for the training in anti-submarine warfare. The chief environmental concern raised is the waste stream entering the Nanoose Range Site. The waste consists of torpedo guidance wire, sonobuoys, and lead ballasts. The baseline study notes that no Federal jurisdiction appears applicable to these materials. However, the study recommends that an attempt be made to “quantify the amount of seabed litter that has accumulated on the WG Range over the years and assess the possible impacts of this waste on the surrounding environment.” The study mentions that this contaminant accumulation may have a negative impact on the marine food chain. Important species mentioned include: chum salmon, Coho salmon, pink salmon, rockfish, herring, lingcod, oysters, and clams. Finally the study mentions that killer whales also pass through the area (CFB Esquimalt 1992).

NUWC Keyport Pacific NW Range Sites

A Range Management Plan (RMP) was prepared to form the baseline environmental characterization for several range sites under NUWC Keyport cognizance (NUWC Keyport 1996). The RMP provides an overview of the range sites (including structures,
equipment, and support platforms), provides a baseline assessment of
the impact of range operations on the environment, and outlines
proposed mitigation in keeping with existing federal and Navy
policies concerning environmental protection. The study concludes
with a series of recommended future measures to safeguard the
environment. These recommendations follow here in summary:
1. Provide environmental training for personnel designing
equipment used on range;
2. Establish a NEPA team to screen range projects for
environmental compliance;
3. Incorporate policy of NEPA planning into Range Operation
Procedures NUWC Report 1509;
4. Formalize current policy of no discharges into range waters;
5. Produce a cost/benefit analysis of replacing lead with a less toxic
ballast material;
6. Ensure that retrofitting or redesign of Mk-46 exercise system
involves a buoyancy system which does not drop lead;
7. Continue plans to phase out the Mk-46 REXTORP and replace it
with the Mk-50 or a lightweight version without a ballast system;
8. Conduct further research regarding the impact from the release
(during a catastrophic event) of both the reactants and products
from the reaction of lithium and sulfur hexafluoride on the
environment;
9. Initiate a study to determine the potential impact of guidance
wire on the environment. A feasibility study could be completed
to research the possibility of wire recovery or use of fiber-optic
material;
10. Study the impact of surface noise to determine its effect on range
inhabitants, particularly seabirds;
11. Investigate a matrix of the pulse type, and power of signals
generated during specific operations versus the sensitivity of the
marine inhabitants to these outputs;
12. Investigate the general method of deployment and the
components of temporary tracking range equipment for
environmental impact;
13. Keep an informational database of all equipment used and its
associated individual impacts;
14. Establish a database to track the accumulation of expendable
material and the potential impact of range operations;
15. Initiate further study to investigate reducing the quantity of
material, with emphasis on reduction or recovery of expended
sonobuoys and parachute hardware;
16. Analyze hazardous material use;
17. Conduct further study to define the impact from atypical APEX
and impact shot tests;
18. Conduct sediment and water sampling to determine the effect of
past operations on the range environment;
19. Seek public input to determine the impact of restricting access to
ranges during testing operations.

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4.4.4 Land Use Planning & Resource Management Issues/Recommendations

The following recommendations are made with regard to existing land use planning and resource management documentation:

**AICUZ Implementation.** The 2005 AICUZ included several recommendations. The active involvement of the community planning liaison was one of these recommendations and is recognized as a vital role in encroachment prevention and good public relations.

**RAICUZ Update.** OPNAV Instruction 3550.1: Range Air Installation Compatible Use Zone Program and Guidelines requires that RAICUZ studies be reviewed every two years and updated as necessary to reflect changing operational and training requirements, new aircraft types, new weapons and delivery tactics, tempo of aviation activity, and land use development. The 1987 Boardman RAICUZ may be due for a review and update to account for the cessation of range use by the A-10s and the expected future use of the range by the EA-18Gs, UAVs, and potentially Oregon Air National Guard helicopters.

**Nature Conservancy Agreement Amendment.** It is recommended that the Cooperative Management Agreement between the Navy and the Nature Conservancy (re: NWSTF Boardman) be reviewed/revisited in light of possible new EA-18G use of the range and the Oregon Army National Guard use of the range.

**Local Land Use Decision Involvement.** Continue to encourage Navy community planning liaison participation in local land use decisions which may have an impact on operations and range usage. Among other important issues requiring the liaison’s attention is awareness of the Morrow County land use plans in relation to NWSTF Boardman. Should there be a desire to expand range use for ordnance delivery, it would be very important to ensure that range encroachment via development or recreational use be minimized.

**CZMA De Minimis Activities.** Develop and negotiate approved *de minimis* activities in each coastal state that will not require additional coordination under the Coastal Zone Management Act.

4.4.5 Land Use Planning & Resource Management Documents

Applicable land use planning and resource management documents are described in Figure 4-10 below.

<table>
<thead>
<tr>
<th>Title</th>
<th>Range(s) Covered</th>
<th>Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific Bald Eagle Recovery Plan</td>
<td>NAS Whidbey Island Lake Hancock Target Range</td>
<td>1986</td>
<td>Complete</td>
</tr>
<tr>
<td>Morrow County Comprehensive Plan</td>
<td>N/A</td>
<td>1987</td>
<td>Complete</td>
</tr>
<tr>
<td>Title</td>
<td>Range(s) Covered</td>
<td>Date</td>
<td>Status</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td>Range Air Installation Compatible Use Zone (RAICUZ) Study. Naval Weapons Systems Training Facility Boardman, Oregon</td>
<td>NWSTF Boardman</td>
<td>1987</td>
<td>Complete</td>
</tr>
<tr>
<td>Cooperative Management Agreement between U.S. Department of the Navy, Boardman, Oregon and the Nature Conservancy</td>
<td>NWSTF Boardman</td>
<td>1988</td>
<td>Complete</td>
</tr>
<tr>
<td>Environmental Baseline Study Volume I. Approach, Regulations and Site Setting</td>
<td>Nanoose Range Site</td>
<td>1992</td>
<td>Complete</td>
</tr>
<tr>
<td>License Agreement for the Use of Leisnoi Native Corporation Property in Kodiak, Alaska</td>
<td>Kodiak Cold Weather Training Ranges</td>
<td>1995</td>
<td>Complete</td>
</tr>
<tr>
<td>Naval Air Station Whidbey Island Bald Eagle Management Plan</td>
<td>NAS Whidbey Island</td>
<td>1996</td>
<td>Complete</td>
</tr>
<tr>
<td>Integrated Natural Resources Management Plan (INRMP) - Naval Air Station Whidbey Island</td>
<td>NAS WI and OLF Coupeville Lake Hancock Target Range Seaplane Base EOD Demolition Training Range Survival Area on NAS WI</td>
<td>1996</td>
<td>Complete</td>
</tr>
<tr>
<td>License Request for Use of Afognak Native Corporation Lands for Extraction, Navigation and Communications Training</td>
<td>Kodiak Cold Weather Training Ranges</td>
<td>1997</td>
<td>Unknown</td>
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## Land Use Planning and Resource Management Documents for NWTRC

<table>
<thead>
<tr>
<th>Title</th>
<th>Range(s) Covered</th>
<th>Date</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>Avian Population Studies at Naval Weapons Systems Training Facility Boardman, Oregon</td>
<td>NWSTF Boardman</td>
<td>1998</td>
<td>Complete</td>
</tr>
<tr>
<td>Island County Comprehensive Plan [<a href="http://www.islandcounty.net/planning/comp">http://www.islandcounty.net/planning/comp</a> plan.htm](<a href="http://www.islandcounty.net/planning/comp">http://www.islandcounty.net/planning/comp</a> plan.htm)</td>
<td>N/A</td>
<td>1998</td>
<td>Complete</td>
</tr>
<tr>
<td>Integrated Natural Resources Management Plan (INRMP) - Naval Weapons Systems Training Facility Boardman, Oregon</td>
<td>NWSTF Boardman</td>
<td>1999</td>
<td>Complete</td>
</tr>
<tr>
<td>Permit for the Use of Real Estate (for the Operation of a Cold Weather Training Facility)</td>
<td>Kodiak Cold Weather Training Ranges</td>
<td>2000</td>
<td>Complete</td>
</tr>
<tr>
<td>Integrated Natural Resources Management Plan (INRMP) - Naval Submarine Base Bangor</td>
<td>Bangor EOD Demo Range Floral Pt Underwater Range</td>
<td>2001</td>
<td>Complete</td>
</tr>
<tr>
<td>City of Oak Harbor Comprehensive Plan</td>
<td>N/A</td>
<td>2003</td>
<td>Complete</td>
</tr>
<tr>
<td>Town of Coupeville Comprehensive Plan</td>
<td>N/A</td>
<td>2003</td>
<td>Complete</td>
</tr>
<tr>
<td>NAS Whidbey Island Activity Overview Plan</td>
<td>OLF Coupeville; MOAs Lake Hancock Target Range NWSTF Boardman NAS Whidbey Island Crescent Harbor Underwater EOD Range Seaplane Base EOD Demolition Training Range</td>
<td>2004</td>
<td>Complete</td>
</tr>
<tr>
<td>Regional Overview Plan and Regional Shore Infrastructure Plan</td>
<td>Boardman; All MOAs; W-237 Admiralty Bay Mining Range Darrington Operating Area</td>
<td>2004</td>
<td>Complete</td>
</tr>
<tr>
<td>AICUZ Study Update for Naval Air Station Whidbey Island’s Ault Field and Outlying Landing Field Coupeville, Washington</td>
<td>OLF Coupeville</td>
<td>2005</td>
<td>Complete</td>
</tr>
<tr>
<td>Land Use Permit for USN Special Warfare Center Kodiak for Use of USCG Property for Overland Navigation Training</td>
<td>Kodiak Cold Weather Training Ranges</td>
<td>2006</td>
<td>Complete</td>
</tr>
<tr>
<td>Kodiak Island Borough Comprehensive Plan <a href="http://www.kibcompplan.com/pi/draft_plan.html">http://www.kibcompplan.com/pi/draft_plan.html</a></td>
<td>Kodiak Cold Weather Training Ranges</td>
<td>2006</td>
<td>In-Progress</td>
</tr>
</tbody>
</table>

*Figure 4-10. Land Use Planning and Resource Management Documents for NWTRC*
4.5 Existing Range Environmental and Resource Management SOPs and Instructions

Range managers are responsible for ensuring that SOPs reflect all relevant environmental and land use constraints and that these SOPs are distributed. Range users are responsible for adhering to these SOPs. If SOPs for training on land ranges and PMAP for at-sea operations are comprehensive, up-to-date, and complied with, Navy unit level training should comply with all applicable laws and regulations. This section, and Figure 4-11, outlines the environmental and resource management information available to the operators in the conduct of their training activities.

<table>
<thead>
<tr>
<th>Title</th>
<th>Range(s) Covered</th>
<th>Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASWHIDBEY INSTRUCTION 5090.10A. BIRD AIRCRAFT STRIKE HAZARD (BASH PLAN)</td>
<td>NAS WI and OLF Coupeville</td>
<td>2001</td>
<td>Complete</td>
</tr>
<tr>
<td>COMNAVREG NW INSTRUCTION 8027.2 (Puget Sound Underwater Demolition Training)</td>
<td>Crescent Harbor Underwater EOD Range, Floral Point Underwater EOD Range, NAVMAG Indian Island Underwater EOD Range</td>
<td>2002</td>
<td>Complete</td>
</tr>
<tr>
<td>Dabob Bay Range Complex Operations and Management Plan</td>
<td>Dabob Bay Range Complex</td>
<td>2003</td>
<td>Complete</td>
</tr>
<tr>
<td>COMPACFLT MSG 210440Z JUN 03 and CFFC/CPF MSG 071954Z OCT 04 (Sonar Operation in Puget Sound)</td>
<td>Admiralalty Bay Mining Range, Dabob Bay Range Complex, EOD Ranges, Nanoose Range Site</td>
<td>2003 / 2004</td>
<td>Complete</td>
</tr>
<tr>
<td>COMFLTFORCOM MSG 071954Z OCT 04 (Fleet-wide Implementation of the Protective Measures Assessment Protocol (PMAP) CD-ROM Application)</td>
<td>PACNW OPAREA, Puget Sound and Inland Waterways</td>
<td>2004</td>
<td>Complete</td>
</tr>
<tr>
<td>Canadian Forces Maritime Experimental and Test Ranges Nanoose 3D Range User Guide</td>
<td>Nanoose Range Site</td>
<td>2005</td>
<td>Complete</td>
</tr>
<tr>
<td>NASWHIDBEY INSTRUCTION 3770.1C: Pacific Northwest Operations Area Manual</td>
<td>PACNW OPAREA and all W-areas within, all MOAs, Darrington OPAREA.</td>
<td>2006</td>
<td>Complete</td>
</tr>
</tbody>
</table>

Figure 4-11. NWTRC Training Area SOPs and Instructions

4.5.1 Protective Measures Assessment Protocol (PMAP)

FFC developed PMAP (DoN 2005) as a set of precautionary standard operating procedures, policies, and planning tools to assist Commanders and COs with environmental compliance for training.
activities at sea. PMAP is a GIS-based CD ROM tool that provides
situalional awareness during at-sea unit level training events. It
provides protective measures for 17 specific RTE and exercises to
maximize the Navy’s protection and conservation of important
marine resources. PMAP measures are to be implemented during
routine unit-level training and are dependent on the geographic
location and type of training exercise being performed. PMAP
applies to the 17 RTEs listed below:

a. GUNEX (surface-to-surface),
b. GUNEX (surface-to-air),
c. GUNEX (air-to-surface),
d. TORPEX (excluding service weapon/shot tests)
   involving use of mid-frequency sonar,
e. Small Arms Training,
f. MISSILEX (surface-to-air),
g. MISSILEX (air-to-air),
h. MISSILEX (air-to-surface),
i. Practice Bombing (explosive),
j. Practice Bombing (non-explosive),
k. Mine Countermeasures (mechanical mine avoidance/mine
   sweeping),
l. Mine Countermeasures (acoustic mine avoidance/mine
   sweeping using mid-frequency sonar),
m. Mine Countermeasures (explosive),
n. Anchor Operations,
o. Ship and Submarine Mid-Frequency Active Sonar Usage,
p. Multistatic High Output Source (IEER, AEER Training
   Operations, electromechanical) and
q. Helo Dipping Sonar-Training Operations.

The protective measures outlined in the assessment tool should be
applied to most ocean areas of the world for routine training events.
Specifically:

- Outside of ranges and OPAREAs, excluding US-recognized
  Foreign Exclusive Economic Zones (FEEZ) and Foreign
  Fishing Zones (where the unit commander should seek
  guidance from the appropriate numbered fleet staff to
determine applicable protective measures), or
- Within ranges and OPAREAs where Navy does not otherwise
  have specific environmental requirements.

When the proposed location, date, and nature of the training event
are entered into the PMAP program, it will generate the natural
resources considerations (e.g., marine mammals, endangered and
threatened species, etc.), the cause of potential impacts (e.g.,
aoustic, collision, etc.), and the training area controls.

Sonar use guidance is specifically provided in the PMAP CD-ROM
introduction as follows:

“Navy units will avoid training with active sonar in areas
where they could encounter conditions that could contribute
to a marine mammal stranding event. These conditions include a strong surface duct, significant bathymetry (steep or complex bathymetric features such as continental shelf break, constricted channels, seamounts and canyons), multiple sonar employment over extended periods of time or limited egress for marine mammals. If a situation arises in which units must conduct sonar training or exercises where the aforementioned conditions are present, prior approval is required from the appropriate numbered feet staff.”

4.5.2 Training Area SOPs and Instructions

Sonar Operation in Puget Sound (COMPACFLT MSG DTG 210440Z JUN 03)

This message provides direction to Navy vessels operating in the Puget Sound waters. Pending the release of more specific guidance from OPNAV, the use of active sonar for routine training and maintenance in the Puget Sound area requires prior approval by COMPACFLT who will coordinate with CNRNW. This guidance applies to the water from Buoy J eastward, including all inland waters (including Canadian waters) of the Strait of Juan de Fuca, the Puget Sound, and the Strait of Georgia. The policy does not apply to the use of active sonar for antiterrorism-force protection or for safe navigation.

COMNAVREGNWINST 8027.2

This instruction applies to EODMU 11 and EODMU 17 and their respective detachments. The instruction emphasizes the mitigation measures set forth in the 2000 Biological Assessment for EOD Operations in Puget Sound, as follows:

- At the Crescent Harbor and Port Townsend Bay sites, during the juvenile migration season (March 15 to July 1 for salmon and bull trout), charges larger than 5 lb. should not be used. If it is necessary to use charges larger than 5 lb., and up to 20 lb., these charges should be detonated at least 1000 m from the nearest shoreline.
- The maximum net explosive weight for any underwater detonation in the U.S. Navy EOD Puget Sound Training Ranges of Crescent Harbor and Port Townsend will be 20 pounds.
- At the Hood Canal site, charges larger than 1 lb. should not be used during the juvenile migration season (March 15 to July 1 for salmon and bull trout).
- Thirty (30) minutes prior to any underwater detonation, one EOD workboat will patrol the training range for potential presence of marine mammals.
  - Pay particular attention for any harbor seal or California sea lions known to occasionally haul out on the haul out rocks along the eastern shoreline of Crescent Harbor.
(approximately 48°17'15"N/122°34'00"W) and off Forbes Point (approximately 48°16'22"N/122°37'50"W).

- Any sightings of marine mammals within a 600-meter radius of the underwater detonation site will cause underwater detonations to be cancelled and rescheduled.

- Following an underwater detonation, the site will be monitored for fifteen (15) minutes and the EOD demolition supervisor will fill-out a Monitoring Sheet. Once completed, the Monitoring Sheet will be maintained for a historical record by each unit conducting underwater demolition operations.

- Ten (10) days prior to detonations in Crescent Harbor, the acting EOD unit will contact Navy Region NW, Assistant Chief of Staff for Environment and Safety at (360) 315-5400. Navy Region NW will then notify the Swinomish Tribe at (360) 315-5400 in order to avoid conflict with tribal fishermen.

### EODMU ELEVEN INSTRUCTION 3120.1G: Standard Operating Procedures for Explosive Ordnance Disposal Demolition Training

This instruction, dated 06 September 2005, sets forth standard operating procedures for EOD demolition at the NAS Whidbey Island Survival Area and at the Crescent Harbor Underwater EOD Range. Though the instruction is primarily focused on procedures to ensure safe and secure EOD training, there are some environmental aspects to the instruction as follows:

- At both sites, prior to demolition, the fire department and public affairs officer shall be notified (among other departments).

- At the Survival Area Demolition Training Range, the maximum net explosive weight per shot is .5 (1/2) lbs. (non-fragmenting). Multiple explosive charges attached to a main line/branch line are still considered the same shot.

- At the Crescent Harbor Underwater EOD Range (as mentioned in the COMNAVREGNWINST 8027.2), a 10 day advance notice is required for any underwater detonation. The Readiness & Training (R&T) Officer must contact Navy Region Northwest and NASWI Environmental Office. NASWI Environmental is required to monitor all explosive operations conducted in the Crescent Harbor Underwater EOD Range. R&T department personnel will coordinate with the Environmental Office to ensure a representative is present for each explosive operation. Also at Crescent Harbor, shots up to 20 lbs. net explosive weight are authorized. According to the instruction, “Due to environmental concerns the net explosive weight per shot has been reduced. The Demolition Operations Supervisor (DOS) is required to check with the R&T Department for current charge weights before requesting explosives.” Finally, if an Environmental
When an underwater detonation occurs and a representative is not available, the DOS will fill out the Environmental Historical Monitoring Sheet and transmit the sheet via email to the R&T Officer. [Note: the Environmental Historical Monitoring Sheet records basic information about the underwater detonation including: date/time, location, lat/long, DOS, explosive charge used, and type and amount of fish taken in the Underwater Detonation].

**NAS WHIDBNEY INSTRUCTION 3770.1C: Pacific Northwest Operations Area Manual**

This instruction, dated 17 March 2006, provides an overview of training airspace areas, outlines safety precautions, and establishes procedures for scheduling use. The instruction provides procedures for conducting such exercises as: surface gunnery, anti-aircraft gunnery, anti-submarine warfare, air-to-air gunnery, air-to-surface exercises, air-to-air MISSILEX, air-to-surface and surface-to-air MISSILEX, electronic countermeasures and chaff requests. From an environmental perspective, there are a few relevant procedures included in the instruction, including:

- **Section 1.2:** Each aircrew will be familiar with the noise profiles of their aircraft and shall be committed to minimizing noise impacts without compromising operational and safety requirements;
- **Section 1.14.10:** When it is necessary to fly over known habitat of wild fowl, an altitude of at least 3,000 feet shall be maintained, conditions permitting;
- **Section 3.9:** The use of illumination flares is not authorized in the MOAs;
- **Section 5.3.2:** The activities permitted within the OCNMS are listed (see earlier discussion from Final Rule publication in Federal Register);
- **Section 5.3.3:** OCNMS restrictions and prohibitions are listed, including:
  - No bombing live or inert;
  - Flying less than 2000’ within one nautical mile of the Flattery Rocks, Quillayute Needles, or Copalis National Wildlife Refuge;
  - Flying less than 2000’ within one nautical mile of the coastal boundary (Shoreline to 1 nm seaward);
- **Section 5.4.4:** The six preferred drop zones are noted (note that all zones are located outside the OCNMS boundary due to the OCNMS restrictions). Drops may be requested anywhere outside the OCNMS, but these are preferred for coordination with COMSUBTRAGRU.

**NAS WHIDBNEY INSTRUCTION 5090.10A: Bird Aircraft Strike Hazard (BASH) Plan**

The 2001 BASH plan (DoN 2001) focuses on reducing bird hazards in and around NAS Whidbey Island. For the purposes of this RCMP, only BASH plan elements relevant to the complex ranges are
highlighted. The BASH Plan notes that OLF Coupeville has a large and potentially dangerous bird population. OLF Coupeville reporting requirements are as follows:

1. Prior to scheduled FCLP operations, OLF personnel will make a BASH sweep of the runway and pass BHC reports to the ODO and LSO.
2. OLF personnel will make periodic sweeps of the runway when breaks in flight operations allow, and report BHC to the ODO and LSO as necessary.
3. The LSO shall also report BHC to the ODO and issue radio advisories to inbound and pattern aircraft.

BASH procedures regarding Low Level Routes are as follows (DoN 2001): Guidance for aircrew actions on routes or segments with severe bird activity is contained in amplifying COMVAQWINGPAC instructions. All flights must avoid those segments that are under BHC RED (severe) based on migration patterns and Weather Radar reports. Additional low-level hazard guidance will be obtained from Bird Hazard Avoidance data provided by the US Air Force BASH Team. Each squadron safety office should maintain a copy of this data. The following are some general operational changes to reduce threats from bird strikes, mission permitting:

1. When practical, reduce low-level flight time. Ninety-nine percent of all bird strikes occur below 2300 feet AGL.
2. Reduce formation flying. The first aircraft can redirect birds into trailing aircraft.
3. Reduced airspeeds will allow birds to be seen sooner and lessen damage in event of a strike.
4. Avoid areas with known raptor concentrations during summer, especially during 1000-1700 time frame due to increased thermals.

**Dabob Bay Range Complex Operations and Management Plan**

The purpose of the Operations and Management Plan (OMP) is to describe the test activities within the geographic boundaries of the Dabob Bay Military Operating Area, the Hood Canal Military Operating Areas, and connecting waters (collectively referred to as the “Dabob Bay Range Complex [DBRC]”) in a descriptive, functional format. The plan focuses on the categories of test range activities, test range management, and resource management and coordinated measures. The overall action ensures continued test range operations and maximizes the existing and future potential Naval Undersea Warfare Center (NUWC) Division, Keyport, Washington use of resources in the Dabob Bay Range Complex. The Final OMP is dated November 19, 2003 and was supported by an environmental assessment and biological assessment.

Based on the analysis in the EA, the Navy has determined that implementation of the OMP would not cause significant impacts to
the environment. The Operations and Management Plan is divided into five parts and an appendix. Part 1 (Introduction) describes the purpose, scope, and format of the plan. Part 2 provides an overview of the Dabob Bay Range Complex and its geographical and physical characteristics. Part 3 discusses the Navy’s management program for the Dabob Bay Range Complex. Part 4 describes the characteristics of the tests that take place within the Dabob Bay Range Complex. Part 5 addresses environmental issues associated with general operations. The Appendix charts Dabob Bay Range Complex testing activities and associated environmental issues.

The OMP notes in part that every project that is proposed for test on the range will have a complete environmental review before conducting any on-range testing. Tasks that will be performed as part of this review include:

1. Examine for inclusion under existing range NEPA documentation;
2. Examine existing NEPA documentation available for the project; and
3. Examine for potential impacts to NUWC environmental stewardship goals.

The governing regulations for the DBRC, include:

1. OPNAVINST 5090.1B;  
2. NUWCINST 5090.1B; and  
3. Range Operating Procedure (ROP), NUWC Report 1509.

For each type of operation, the ROP provides objectives, policies, responsibilities, procedures (including attached applicable forms), and approval. The ROP also includes provisions for dealing with marine mammal sightings and other related environmental issues.

The OMP also details range monitoring procedures, recording requirements, and data maintenance requirements. Furthermore, the OMP details outreach responsibilities related to American Indian Tribes and the Point No Point Treaty Council.


The Nanoose 3D Range User Guide sets forth a description of the facilities and equipment available at the Canadian Forces Maritime Experimental & Test Ranges (CFMETR), as well as the rules for their usage. The CFMETR ranges include and instrumented 3-D range-Area WG (with associated airspace CYR 107), the non-instrumented Whiskey Foxtrot (WF) area, the Jervis Inlet range area (WN), and the Hotham Sound range area. The User Guide notes that no explosives may be used on the range and sets forth several operating procedures to address environmental concerns. These include:
1. For visits by nuclear-powered/capable vessels (NPVs/NCVs), a Nuclear Emergency Response Team (NERT) is placed on alert. Water and air samples are taken at various times during the visit and the NPV is monitored continuously for Gamma Shine.

2. No waste, effluent, or garbage is to be discharged overboard in Nanoose Harbour or in the Strait of Georgia (including ranges areas), with certain exceptions applicable to treated sewage and grey water. See User Guide for details as to these exceptions.

3. No form of oily waste or bilge water may be dumped at any time. No solid waste, garbage or food waste may be dumped. All Biohazardous Infectious Waste must be retained on board until proper disposal arrangements can be made.

4.5.3 Training Area SOP and Instruction Recommendations

Range managers will review their SOPs and Instructions (see list in Figure 4-11) to ensure that operating procedures therein address all environmental, resource management, and land use constraints prescribed by relevant plans, permits, agreements, real estate instruments, and other compliance documents.

The following recommendations are made regarding existing operational constraints.

EOD Mitigation Measure Training (Recommend). Among other requirements, the COMNAVREGNWINST 8027.2 implements the Biological Assessment mitigation measures for EOD operations in the Puget Sound training ranges. These mitigation measures are very detailed and potentially complicated. The recommendation is for thorough EOD training in order that these mitigation measures can be implemented successfully. In addition, the EODMUELEVENINST 3120.1G requires that DOSs record the types of fish taken during an underwater detonation when a NASWI Environmental Department personnel is unable to attend the detonation. It may be recommended that fish species identification training be required for either DOSs, or those under DOS supervision to ensure that the data is properly recorded.

4.6 ENCROACHMENT ISSUES BASED ON EXISTING ENVIRONMENTAL DOCUMENTS

Appendix B compares mitigation measures/restrictions identified in existing environmental documents applicable to the encroachment issues outlined in chapter 5.
5 ENCROACHMENT AND SUSTAINMENT CHALLENGES

This section analyzes encroachment on the Navy’s training ranges in the Northwest Training Range Complex (NWTRC).

5.1 ENCROACHMENT ANALYSIS AND METHODOLOGY

The encroachment analysis identifies and describes encroachment pressures in the NWTRC. The analysis uses a series of 20 matrices, summarized in Appendix C, which evaluate encroachment issues against the Ranges to Readiness (R2R) study training impact factors. The 20 matrices represent individual ranges within four major range areas that, combined, make up the NWTRC. Sources of information that were used to develop the matrices included numerous interviews, telephone conversations, and e-mail messages with staff, range managers, and operators. Each of the 20 major range entities included in the matrices was evaluated for these 12 encroachment issues:

- Endangered species or their critical habitats
- Cultural resources
- Unexploded Ordnance (UXO) and munitions
- Frequency encroachment
- Maritime sustainability
- Airspace restrictions
- Air quality
- Clean water
- Wetlands
- Airborne noise
- Urban growth
- Range transients

The impact of each of these encroachment issues was evaluated against the following 12 training factors:

- Creates avoidance areas
- Reduces training days
- Prohibits certain training events
- Reduces range access
- Segments training and/or reduces realism
- Limits application of new weapons technologies
- Raises flight altitudes
- Inhibits tactics development
- Complicates night and all-weather training
- Reduces live-fire proficiency
- Increases personnel tempo
- Greatly increases Operations and Maintenance (O&M) costs
Each encroachment issue with its corresponding training impact was ranked as severe impact (red in the Appendix C matrices), moderate impact (yellow), minimal impact (green), or not observed (white).

These ranking represent the encroachment impact observations taken directly from subject matter experts (SMEs) of the Northwest Training Range Complex. Accordingly, the encroachment rankings are not statistical measures. Rather, they reflect subject matter experts’ knowledge and judgment about environmental issues and subjective impacts.

- A **severe** impact is one that prohibits a training event or activity or makes the training event or activity ineffectual when measured against training standards.
- A **moderate** impact marginalizes training to the extent that the training can be done but must use alternate standards and methods that detract from otherwise optimum training.
- A **minimal** impact does not effectively detract from training content, procedure, or outcome.

All of the impacts are included in the Appendix C matrices. However, only the moderate and severe impacts are described in this analysis narrative.

### 5.2 ENCROACHMENT IN THE NORTHWEST TRAINING RANGE COMPLEX

The encroachment analysis determined that there is a moderate amount of encroachment in the NWTRC and that when encroachment occurs, impacts are generally minimal. There are some situations, described in detail in the following sections, in which encroachment is causing moderate interruptions or impacts to training realism.

Some of the impacts identified are related to restrictions imposed on aircraft by the presence of the Olympic Coast National Marine Sanctuary (OCNMS) and fall under the Maritime Sustainability category of encroachments. Also in this category, encroachments exist due to marine mammal migrations. There is also airspace restriction encroachment associated with the limitations of firing live, air-to-surface ordnance. The final impacts in the range are recorded in the Pacific Northwest Ocean Surface/Subsurface Operating Area and come under the category of Urban Growth. Seismic instruments deployed on the ocean floor by civilian scientists force Navy submarines to avoid the area.

The NWTRC includes five Military Operating Areas (MOAs), Darrington Area, the Naval Weapons Systems Training Facility (NWSTF) Boardman Range and associated airspace, Admiralty Bay Restricted airspace, and the Strait of Juan de Fuca water space. In this air, water, and land space, the encroachment impacts were assessed as severe, moderate, and minimal as summarized in
Appendix C. These impacts will be discussed in the sections that follow and were identified under Frequency Encroachment (Section 5.2.1), Maritime Sustainability (Section 5.2.2), Airspace Restrictions (Section 5.2.3), and Urban Growth (Section 5.2.4).

Chapter 5 herein exclusively addresses encroachment, and does not consider shortfalls in range capabilities. Shortfalls in range capabilities are described in Chapter 7, Range Complex Capabilities Assessment. The combined consideration of encroachment analysis and capability shortfalls provides insight into the range complex’s ability to support NTAs. For a listing of the NTAs, see Chapter 3 (Current Range Complex Operations).

5.2.1 Frequency Encroachment

Frequency encroachment in the NWTRC has been driven by the technological advances in the telecommunication industry and the reallocation of frequency spectrum bandwidth. This encroachment will continue to be an issue into the future as technologies and increased demand for frequency spectrum bandwidth is placed upon the finite frequency spectrum. Frequency encroachment in the PACNORWEST OPAREA has an overall minimal impact on training operations. Frequency restrictions on Link 16, SPY-1 radar, SPS-49 radar, and Identification Friend or Foe (IFF) systems are causing a minimal degradation to training within the PACNORWEST OPAREA. Although this section addresses the general operational restrictions placed upon these systems in the Northwest Range Complex, many of the restrictions are classified and maintained in a document available on the SIPRNET at the following location:


The Joint Restricted Frequency List (JRFL) imposes restrictions on aircrews training in Electronic Attack missions. *Elaboration on these restrictions exceeds the UNCLASSIFIED nature of this document.* Additionally, there are difficulties in obtaining clearance from the FAA to conduct airborne jamming. For example, electronic jamming, the primary mission of the locally based EA-6B Prowler, is not allowed in the Okanogan and Roosevelt MOAs due to the presence of a satellite communication station. Jamming is permitted in the Olympic MOA when the aircraft is heading west and the radio frequency (RF) energy is directed toward the Pacific Ocean. Periodically (average one event per crew each quarter), Electronic Attack training is conducted elsewhere, in part to take advantage of different range assets and training with other aircraft. Events involving new technology are occasionally conducted away from the NWTRC.

**Operational Impact of lost/restricted/threatened capability:**

*Minimal*

**NTA affected by encroachment:** 3.2.1.1, 3.2.3, 3.2.5.
**R2R training impact & current workaround:** Restrictions from the JRFL and the FAA create avoidance areas, prohibit certain training events, segment training/reduce realism, limit application of new weapons technologies, and inhibit new tactics development. Currently, aircrews travel to SOCAL or Fallon to conduct portions of their training syllabus.

**Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment?** Unknown. EA-18G will replace EA-6B, but full impact of replacement is not known. The Growler aircrews are expected to have training requirements similar to the Prowler.

**Source of Encroachment:** JRFL and FAA.

**Recommendation:** None.

### 5.2.1.1 Link 16 Restrictions

Link 16 is a relatively new tactical data link which is being employed by the United States Navy, the Joint Services, some nations of the North Atlantic Treaty Organization (NATO) and Japan. The Joint Tactical Information Distribution System (JTIDS), the communications component of Link 16, is a data communications system that provides the Army, Navy, Air Force, and Marine Theater Command and Control (C2) elements with a secure, jam-resistant, high capacity data link communications system for use in a tactical combat environment. Link 16 is DoD's primary tactical data link for command, control, and intelligence, providing critical joint interpretability and situation awareness information.

The Federal Aviation Administration (FAA) has constrained the use of the airborne Link 16 system within the territorial limits of the United States coastline as negotiated in the memorandum of agreement (MOA) between the Department of Transportation (DOT) and the DoD. The MOA places limits on time slots and pulse frequency. In addition, Link 16 employment applications require up to 90 days advance submittals, and approvals often are issued only within 24 hours of pending use. The MOA also limits total Link 16 transmissions to 6 hours per day. These restrictions are placed upon the Navy because the frequency band in which the system operates is allocated for aeronautical radio navigation and is shared with the FAA. As a result, Fleet Commanders have implemented procedures that limit Link 16 use by naval forces within 50 miles of the coast and in order to use the Link 16 equipment the bandwidth must be shared. These restrictions limit the number of Link 16 equipped units that can operate the system simultaneously, thereby reducing overall training efficiency.

**Operational impact of lost/restricted/threatened capability:** Minimal.

**NTAs affected:** 3.2.1.1; 3.2.3; 3.2.5.

**R2R training impact & current workaround:** Restrictions on Link 16 usage prohibit/reduces training days, limit application of new
weapons technologies, and inhibit new tactics development. Training using Link 16 training is conducted outside of 50 miles from the coast, or the training is accomplished through meticulous management of the frequency spectrum, which results in less than optimal training.

**Impact of introduction of new weapons systems, tactics, or missions:** New weapons systems tend to be networked and more data intensive, thereby requiring more frequency spectrum. Increasing constriction of the spectrum available for military uses will continue to impact Research, Development, Test and Evaluation (RDT&E), and development of new tactics and training on new systems. This encroachment and the ongoing installation of the Link 16 capability on platforms such as the Littoral Combat Ship (LCS), Joint Strike Fighter (JSF), and other platforms will continue to have an impact on training operations.

**Source of encroachment:** MOA between DOT and DoD; National Telecommunications and Information Administration (NTIA) frequency assignment restrictions and communications procedures contained in Annex Kilo to USFLTFORCES/COMLANTFLT OPORD 2000-03.

**Areas where the restrictions exist:** All SUA and OPAREAS in the complex within 50 miles of the coast.

**Recommendation:** Continue all coordination efforts with the FAA for sharing of this frequency bandwidth to prevent further Link 16 restrictions and investigate opportunities for increased Link 16 use. The DoD has successfully demonstrated JTIDS compatibility with aeronautical radio navigation equipment. There has been significant and successful negotiation between the NTIA (who allocates national frequency spectrum), the FAA, and the DoD to ease the restrictions on JTIDS/Multifunctional Information Distribution System (MIDS) operations. The Navy Marine Corps Spectrum Center (NMSC) is delegated the assignment as the lead in JTIDS/MIDS coordination for the DoD. The NMSC, on behalf of the DoD, coordinates continuously with the Frequency Assignment and Engineering Division (ASR-100) of the FAA directly on all issues concerning JTIDS/MIDS frequency management. Future negotiations have the following goals in sight:

1. Permitting uncoordinated 150/50% Time Slot Duty Factor (TSDF) operations in specific geographic areas where large numbers of platforms simultaneously train on a routine basis;
2. Unlimited contention access TSDF;
3. Reducing the authorization processing time to five days with electronic media; and
4. Authorize permanent assignments for all military locations, including those with fixed ground platform installations (DoD 2004b).

Should additional resources allow, increasing the negotiation or coordination efforts should be considered.
5.2.1.2 SPY-1 Restrictions

The SPY-1 phased array radar system is the primary air and surface radar for the Aegis Combat System installed in the Ticonderoga (CG-47) and Arleigh Burke (DDG-51)-class warships. It is a multi-function, phased-array radar capable of search, automatic detection, transition to track, tracking of air and surface targets, and missile engagement support. It operates in the 3-5 gigahertz (GHz) band. It is used by Aegis platforms in all Anti-Surface Warfare (ASUW) and Anti-Air Warfare (AAW) events. Tactical data from this system can be shared through data links (like Link-16) to other link-capable commands.

Inside 25 from land, the SPY-1 may only operate in the maintenance mode with the antenna radiating straight up. Live antenna radiation operations are unrestricted outside of 25 miles of land. These radiation restrictions stem mainly from the protection of other DoD activities which operate navigational equipment within the 3-5 GHz bandwidth, including other DoD surface search radars.

Operational impact of lost/restricted/threatened capability: Minimal.
NTAs affected: 3.2.1.1.

R2R training impact & current workaround: Restrictions on SPY-1 usage reduce training days, prohibit certain training events, segment training/reduce realism, limit application of new weapons technologies, and inhibit new tactics development. Despite an increased Navy emphasis on the littorals, ships must conduct SPY-1 related exercises outside of 25 miles, which is beyond littoral waters.

Impact of introduction of new weapons systems, tactics, or missions: Training with new missile and weapons systems would be affected where tactics, techniques, and procedures require use of SPY-1 radars.

Source of encroachment: NTIA frequency assignment restrictions and communications procedures contained in Annex Kilo to USPFLTFORCES/COMLANTFLT OPORD 2000-03.

Areas where the restrictions exist: All portions of OPAREAS within 25 miles of the land within the complex.

Recommendation: NMSC should continue coordination with the NTIA through the Military Communications Electronics Board (MCEB) Joint Frequency Panel on SPY-1 frequency management issues. The MCEB Joint Frequency Panel is the principal DoD coordinating agency for spectrum management. The MCEB Joint Frequency Panel is broken into a number of permanent working groups. The key working group that manages SPY-1 issues is the equipment spectrum guidance permanent working group (J-12 PWG). Responsibilities of the J-12 PWG may be found in the MCEB Organization, Mission and Functions Manual (MCEB Pub 1 of 1 March 2002).
5.2.1.3 SPS-49 Radar Restrictions

Frequency encroachment also applies to other Navy transmitters including the AN/SPS-49 radar. The SPS-49 Air Search Radar is a long-range, two-dimensional (range and bearing) air search radar which provides target position data to a ship command and control system. It is capable of detecting targets as high as 100,000 feet at a distance of 2 to 300 miles. U.S. ships which operate the SPS-49 include the following ship classes: CV/CVN, CG-47, FFG-7, LSD-41/49, and LHD-1-class ships. The Radar is an L-band, long-range, two-dimensional, air-search radar system that provides automatic detection and reporting of targets within its surveillance volume.

When the Navy first developed the SPS-49 radar in the late 1970’s, they were allocated a band of the frequency spectrum by agreeing to share it with civilian telephone users. Until the late 1980’s the Navy could and did use frequencies throughout the tuning range of 850-950 megahertz (MHz) without causing any interference. With the continued growth of cellular systems in highly populated areas, Navy use of the full bandwidth started causing interference problems. Although the DoD is assigned the 902-928 band in which it operates, the radar will interfere with other civilian and FAA navigational radars tuned to the same frequency, thus causing problems for the Navy. Current restrictions on the SPS-49 radar limit its use within 100 miles of land. In addition, other land based communications systems can be interfered with by this radar and operational restrictions are placed upon Navy units regionally.

Operational impact of lost/restricted/threatened capability: Minimal.

NTAs affected: 3.2.1.1, 3.2.5.

R2R training impact & current workaround: Restrictions on SPS-49 radar usage reduce training days, prohibit certain training events, segment training/reduce realism and inhibit new tactics development. Ships must conduct required training and operations associated with these systems outside 100 miles from land.

Impact of introduction of new weapons systems, tactics, or missions: Minimal additional impact is anticipated.

Source of encroachment: NTIA frequency assignment restrictions and communications procedures contained in Annex Kilo to USFLTFORCES/COMLANTFLT OPORD 2000-03.

Areas where the restrictions exist: All portions of OPAREAS within 100 miles of land within the complex.

Recommendation: NMSC should continue coordination with the NTIA through the Military Communications Electronics Board (MCEB) Joint Frequency Panel on SPS-49 frequency management issues. The MCEB Joint Frequency Panel is the principal DoD coordinating agency for spectrum management. The MCEB Joint Frequency Panel is broken into a number of permanent working groups. The key working group that manages SPS-49 issues is the equipment spectrum guidance permanent working group (J-12
Responsibilities of the J-12 PWG may be found in the MCEB Organization, Mission and Functions Manual (MCEB Pub 1 of 1 March 2002).

5.2.1.4 Identification Friend or Foe (IFF) Restrictions

Identification Friend or Foe (IFF) is a two-channel system, with one frequency (1030 megahertz) used for the interrogating signals and another (1090 megahertz) for the reply. There are four major modes of operation currently in use by military aircraft plus one sub-mode. Mode 1 is a non-secure low cost method used by ships to track aircraft and other ships. Mode 2 is used by aircraft to make carrier controlled approaches to ships during inclement weather. Mode 3 is the standard system also used by commercial aircraft to relay their position to ground controllers throughout the world for air traffic control (ATC). Mode 4 is secure encrypted IFF (the only true method of determining friend or foe). Mode "C" is an automatic altitude encoder.

FAA regulations require that all aircraft, military or civilian, flying at an altitude of 10,000 feet or higher in U.S. controlled airspace, must be equipped with an operating IFF transponder system capable of automatic altitude reporting (this is the reason that two of the modes are used by both military and civilian aircraft). Use of the IFF interrogation system within 25 miles of land is restricted due to interference with FAA interrogation systems associated with civil airports. Further restrictions limiting IFF use are classified and can be found at the following site:


Operational impact of lost/restricted/threatened capability: Minimal.

NTAs affected: 3.2.1.1, 3.2.3, 3.2.5.

R2R training impact & current workaround: Restrictions on IFF usage reduce training days, prohibit certain training events, and segment training/reduce realism. Ships must conduct required training, including flight operations, and operations associated with IFF outside 25 miles from land.

Impact of introduction of new weapons systems, tactics, or missions: The Navy’s policy of moving toward increased littoral operations and training will be impacted by these restrictions. LCS, the Navy’s newest surface ship, is designed specifically for use in the littorals and along with the MH-60S helicopter, will be limited by these restrictions.

Source of encroachment: NTIA frequency assignment restrictions and communications procedures contained in Annex Kilo to USFLTFORCES/COMLANLANTFLT OPORD 2000-03.

Areas where the restrictions exist: All portions of OPAREAS inside the complex within 25 miles of land.

Recommendation: Continue to work with FAA to prevent further restrictions with IFF. NMSC should continue coordination with the
NTIA through the Military Communications Electronics Board (MCEB) Joint Frequency Panel on IFF management issues. The MCEB Joint Frequency Panel is the principal DoD coordinating agency for spectrum management. The MCEB Joint Frequency Panel is broken into a number of permanent working groups. The key working group that manages IFF issues is the equipment spectrum guidance permanent working group (J-12 PWG). Responsibilities of the J-12 PWG may be found in the MCEB Organization, Mission and Functions Manual (MCEB Pub 1 of 1 March 2002).

5.2.2 Maritime Sustainability

The Marine Mammal Protection Act (MMPA) is one of the most significant contributors to encroachment in the PACNORWEST OPAREA. MMPA encroachment impacts relate primarily to the Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASUW) mission areas and are associated with the restrictions placed on the introduction of sound from active sonar into ocean waters. Although the mitigation measures under maritime sustainability encroachment include procedures which support requirements of the Endangered Species Act (ESA), the encroachment issue specifically attributed to these Acts is maritime sustainability.

Fleet-directed environmental mitigation measures stem primarily from the North Atlantic right whale Biological Opinion (National Marine Fisheries Service [NMFS] 1997) which addressed the impact of Navy training activities off the southeastern coast on endangered species (primarily the North Atlantic right whale). This document is recognized as a precedent in Navy/NMFS relations and the foundation from which most environmental protective measures spring from in subsequent Navy at-sea documents. Mitigation measures include:

- All surface combatants and surfaced submarines shall designate and post marine mammal and sea turtle visual lookouts with marine mammal training.
- Vessels shall maintain at least 500 yards distant from an observed marine mammal and shall operate at a safe speed to avoid marine mammal collisions.
- Vessels shall conduct passive acoustic searches for close-aboard marine mammals.
- Surface combatants, submarines, and towed arrays shall reduce acoustic search power levels or shut down active sonar commensurate with marine mammal proximity.
- Water detonations and air-to-ground ordnance delivery must be preceded by a visual and acoustic all-clear for marine mammals and sea turtles in the target area.
- Live-ordnance delivery shall not be employed within five miles of a marine mammal and within two miles of a sea turtle.
5.2.2.1 Olympic Coast National Marine Sanctuary

Restrictions on aircraft altitude and proximity in the OCNMS impact training in W-237 blocks A & B. OCNMS was established off the coast of Washington state in 1994 as the fourteenth maritime sanctuary added to the National Marine Sanctuary System. The Olympic Coast National Marine Sanctuary covers an area of approximately 3,300 square miles and contains some of the richest fishing and shell fishing grounds on earth. Olympic Coast National Marine Sanctuary supports one of the world's most diverse kelp communities and is visited by 29 species of whales, dolphins and porpoises. The sanctuary contains some of the largest colonies of seabirds in the continental United States. This sanctuary underlies the eastern portion of W-237 A/B and includes a 5 nautical mile (nm) buffer zone seaward. Sanctuary regulations prohibit or limit numerous activities within this 5 nm buffer zone.

Marine mammal mitigation measures cause limited periods of range non-availability. Commander, U.S. Third Fleet (COMTHIRDFLT) OPORDER 201 requires US Navy aircraft and vessels to remain clear of whales, which are frequently found in W-237. Aircrews must avoid flying near them and are prohibited from dropping objects in the water, such as sonobuoys or ordnance that could disturb them.

Operational Impact of lost/restricted/threatened capability: Moderate

NTA affected by encroachment (refer to Ch 3 figure 3-1) : 2.2.3, R2R training impact & current workaround: Compliance with the OCNMS recommended avoidance areas by military aircraft results in the creation of avoidance areas, segments training / reduces realism, raises flight altitudes. The requirement to avoid whales by military aircraft and ships results in reduced range access.

Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment? No


Recommendation: This is a self-encroachment recommended avoidance.

5.2.2.2 Active Sonar Mitigation Measures

The draft Navy Interim Sonar Policy entitled, “Mid-Frequency Active Sonar Effects Analysis Interim Policy,” has the purpose of implementing a policy and approach for assessing the potential adverse marine environmental effects of Navy active sonar use associated with routine military readiness and scientific research activities. It prescribes the procedures to be utilized to ensure continued compliance with federal environmental law and regulation in light of recent scientific advancements and regulatory interpretation in determining significant biological effects of Navy active sonar use on marine mammals and endangered species. In this
draft policy it directs that Navy activities will continue implementing unit level and major exercise protective measures designated by the appropriate fleet commander. Those mitigation measures are contained in Navy Protective Measures Assessment Protocol (PMAP).

The Secretary of the Navy’s (SECNAV) “at sea policy,” signed in December 2000, tasked the Chief of Naval Operations (CNO) to develop protective measures to minimize potential operational impacts on marine mammals/endangered species for operations at-sea. PMAP is designed to meet the SECNAV tasking.

PMAP provides a Fleet-wide set of protective measures to Commanding Officers for particular activities, special areas, and designated areas of interest. PMAP applies to the following: gunnery exercises and missile exercises (surface/surface, surface/air, and air/surface); torpedo exercises; small arms training; mine countermeasures; practice bombing (live and inert); anchor operations; explosive echo ranging; hull-mounted sonar training; and dipping sonar training. These procedures prevent the inadvertent collision with or other impact to a marine mammal or sea turtle. If a mammal, turtle, or raft is sighted in the vicinity of training activities, certain operational activities must be altered or suspended. Altered or suspended activities negatively affect training as they impose non-tactical procedures into the tactical training environment (i.e., they do not permit crews to train as they would fight), restrict the number and type of training activities, and divert manning resources to observation duties.

PMAP restricts active sonar operations at sea so as to not impact marine mammals or sea turtles which may be in the vicinity. Consistent with essential training requirements, Navy units should avoid training with active sonar in areas where they will encounter conditions which in their aggregate may contribute to a marine mammal stranding event. These conditions include: strong surface duct, significant bathymetry (steep or complex bathymetric features such as the continental shelf break, seamounts and canyons), use of multiple sonar over extended periods of time, and constricted channels or limited egress for marine mammals. If a situation arises in which units must conduct training/exercise under such conditions, prior approval shall be received by contacting COMPACFLT staff.

In all cases the following protective measures apply to sonar operations:

- Surface units shall use trained lookout(s) to survey for marine mammals (whales, dolphins, sea lions, etc) and sea turtles prior to commencement and during the exercise.
- Submarines shall monitor acoustic detection devices for indications of close aboard marine mammals (high bearing rate, biologic contacts).
• When a surface combatant or a submarine conducting active sonar training detects a marine mammal close aboard, it shall reduce maximum sonar transmit level to avoid harassment in accordance with the following specific actions:
  o When whales or dolphins are detected by any means (aircraft, lookout, or aurally) within 450 yards of the sonar dome, the ship or submarine will limit active transmission levels to at least 6 dB below their equipment maximum for sector search modes.
  o Ships and submarines will continue to limit maximum ping levels by this 6 dB factor until they assess the marine mammal is no longer within 450 yards of the sonar dome.
  o Should the marine mammal be detected closing to inside 200 yards of the sonar dome, the principal risk to the mammal changes from acoustic harassment to one of potential physical injury from collision. Accordingly, ships and submarines shall maneuver to avoid collision/Closest Point of Approach (CPA) less than 200 yards to the degree possible consistent with safety of the vessel. Standard whale strike avoidance procedures apply.
  o Special conditions applicable for dolphins and porpoises only: If after conducting an initial maneuver to avoid close quarters with dolphins or porpoises, the ship or submarine concludes that dolphins or porpoises are deliberately closing on ship to ride the vessel's bow wave, no further mitigation actions are necessary: while in the shallow wave area of the vessel bow, dolphins or porpoises are out of the main transmission axis of the mainframe active sonar and only exposed to significantly lower power levels.

Operational impact of lost/restricted/threatened capability:
Minimal.

NTAs affected: 1.3.1, 3.2.1.1, 3.2.1.2

R2R training impact & current workaround: Active sonar mitigation measures: create avoidance areas, segment training and/or reduce realism, and inhibit tactics development. Upon sighting a marine mammal or sea turtle, units must suspend training exercise until the marine mammal/sea turtle has cleared the area, or the unit has moved to a different location.

Impact of introduction of new weapons systems, tactics, or missions: Continued work by non-government organizations to seek out injunctions against use of mid-frequency sonars could have significant impact on sonar operations in the future. Training with new sonar systems could be significantly impacted by these injunctions. As well, increased ASW tactics in the littorals could also be impacted by these injunctions.

Areas where the restrictions exist: The PACNORWEST Surface and Sub-surface OPAREA.

Recommendation: In addition to the impending promulgation of a sonar policy the Navy is currently pursuing an activity based, vice geographically area-based compliance strategy. This strategy includes completing a mid-frequency sonar EA/OEA which was started in the fall of 2006. The SECNAV/SECDEF policy exemption of January 2007 authorizes the Navy to use mid-frequency sonar for two years.

5.2.2.3 AN/SSQ-110 Improved Extended Echo Ranging (IEER) Sonobuoy Employment Restrictions

The IEER is an ASW sensor. It is a sonobuoy deployed by P-3 aircraft that initiates two small explosive charges (4.2 lb net explosive weight each) used to create a noise as a source of acoustic energy, to detect submarines at long ranges, including diesel-engine submarines operating in littoral waters. Use of the IEER is an important ASW capability that requires considerable practice to develop proficiency.

To avoid potential impacts to marine mammals in near-shore waters, current Navy policy places the following restrictions on the employment of AN/SSQ-110 IEER sonobuoys:

- Prohibit IEER employment within 50 miles of the coast;
- Prohibit employment in depths less than 200 meters; and
- Prohibit employment within 50 miles of marine sanctuaries and known marine mammal breading areas.

Operational impact of lost/restricted/threatened capability: Minimal.

NTAs affected: 3.2.1.2.

R2R training impact & current workaround: Restrictions on IEER employment prohibit certain training events. Currently, Navy prohibit IEER testing and training in the littoral environment for which it provides a crucial capability. Navy allows IEER employment in deep-water operations and simulation. This deprives the ASW community of the opportunity to train in challenging littoral environment, thereby potentially putting naval units at greater risk from quiet diesel submarines.

Impact of introduction of new weapons systems, tactics, or missions: AN/SQS-110 restrictions continue to hinder further development and training of this system in the littoral environment. Introduction of the LCS and its associated mission of ASW in the littorals could be impacted by this restriction in training. New technologies such as the Advanced Extended Echo Range System (AEER) will be similarly impacted by these restrictions.
Source of encroachment: Navy IEER EA (DoN 2001c) and imposed AN/SQS-110 restrictions found in PMAP (DoN 2004c).

Areas where restrictions exist: The PACNORWEST OPAREA that lies within 50 miles of the coast and the OCNMS.

Recommendation: FFC will include IEER in its sonar analysis and subsequent environmental planning effort.

5.2.3 Airspace Restrictions

5.2.3.1 Electronic Reconnaissance

VQ Aircrews based at NAS Whidbey Island train in Electronic Reconnaissance in Darrington OpArea. They routinely experience difficulty getting clearance from Seattle ARTCC (FAA) to climb above FL 250. The aircraft are routinely vectored around by Seattle ARTCC causing delays in airborne training time. This occurs once or more per week. When aircrews have difficulty getting higher altitudes, they travel to Fallon to complete the training.

Operational Impact of lost/restricted/threatened capability: Moderate

NTA affected by encroachment: 2.2.3.

R2R training impact & current workaround: These restrictions result in reduction of range access.

Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment? Unknown.

Source of Encroachment: FAA restrictions on altitudes in Darrington.

Recommendation: Locate additional EC emitters throughout the NWTRC, thereby providing alternative locations for VQ and VAQ aircrews to train.

5.2.3.2 High Speed Anti-Radiation Missile (HARM) Live Fire

The three EA-6B Prowler Squadrons that support the USAF must travel to Point Mugu to launch an AGM-88 High speed Anti-radiation Missile (HARM). These three squadrons are scheduled to be decommissioned by 2012. All EA-6B squadrons are required to fire one HARM missile each year to meet a Training and Readiness requirement. Electronic Attack aircrews are not allowed to fire a live AGM-88/HARM missile in the NWSTF Boardman range or in the Special Use Airspace in the Northwest Training Complex. The SUA is considered insufficient in size for safety to allow a live HARM shot. There is no impact to squadrons that deploy on aircraft carriers as they launch the HARM missile on Point Mugu’s Sea Range, during pre-deployment training at sea.

Operational Impact of lost/restricted/threatened capability: Minimal

NTA affected by encroachment: 2.2.3, 3.2.1.1, 3.2.4.
R2R training impact & current workaround: This restriction increases personnel tempo and O&MN costs for the squadron aircrew and maintenance personnel to travel to Point Mugu to conduct these missile firings.

Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment? Unknown. New technology may require a larger safety zone due to extended range (distance) capability.

Source of Encroachment: DoD and Navy restrictions on live fire HARM events to avoid accidental damage and casualties to non-participants.

Recommendation: None

5.2.4 Urban Growth

Instruments to monitor seismic activity on the floor of the ocean have been deployed by civilian scientists, in the northwestern portion of the PACNORWEST OPAREA. Because of the measuring instruments, U.S. Navy submarine crews are directed to remain clear of this area. The exact size and location of this area is classified.

Operational Impact of lost/restricted/threatened capability: Moderate

NTA affected by encroachment: 2.2.3, 3.2.1.2.

R2R training impact & current workaround: This restriction creates an avoidance area and prohibits certain training events.

Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment? No.

Source of Encroachment: Civilian seismic monitoring instrumentation is deployed on the ocean floor in the northwestern corner of the OPAREA.

Recommendation: None.

5.3 ENCROACHMENT AT NAVAL UNDERSEA WARFARE CENTER (NUWC) RANGES

The NUWC Ranges include Dabob Bay Range Complex (DBRC), the Canadian Forces Maritime Experimental Test Range (CFMETR, aka NanOOSE), Keyport, and Quinault range sites. DBRC, CFMETR, and Quinault have fixed instrumentation for manned and unmanned vehicle testing. A portable system called “SWIFT” is deployed at Keyport site when instrumentation is needed. DBRC serves the Submarine force based at Bangor Sub Base and NSW personnel from Group THREE in San Diego. Keyport also hosts NSW crews from Group THREE and mine warfare training with Navy Special Clearance Team ONE. DBRC and Keyport host Autonomous Underwater Vehicle tests, as recently as the AUV FEST in June 2005. CFMETR (NanOOSE) provides Anti-Submarine Warfare (ASW) and Mine Warfare (MIW) training for US Navy P-3 aircraft at NAS Whidbey Island, and Commander, Destroyer Squadron NINE (CDS-9) ships home-ported in Puget Sound. On these four underwater sites, only moderate and minimal impacts were
identified. The moderate impacts were identified under Maritime Sustainability (Section 5.3.1), Water Quality (Section 5.3.2), and Range Transients (Section 5.3.3) and will be discussed in the paragraphs that follow.

5.3.1 Maritime Sustainability

Restrictions exist to protect the depleted orca whale community in the northwest; therefore, the occasional orca pods that migrate into Dabob Bay and Hood Canal, cause disruption to the training events at DBRC for submarines. When orcas are present, NUWC monitors the whale with a range boat and stands off by at least 500 yards. The presence of orcas can interfere with SSBN Sea Trial operations. Since SSBNs utilize DBRC in Dabob Bay for Sea Trials on a bi-weekly schedule, these operations are occasionally impacted by orcas. Transient orcas which feed on the seals that evade by moving close to shore. Range personnel monitor whale presence carefully. Orca pods also appear on CFMETR (Nanose) and interfere with underwater training.

Pacific Right Grey Whales migrate on Keyport site. Their presence may interfere with ongoing range operations. NUWC Keyport policy is not to conduct tests and/or operations in the presence of whales.

COMPACFLT issued a policy in June 2003 that requires all Navy vessels in Puget Sound to obtain permission prior to operating active sonar (except fathometers) for routine training and maintenance.

Operational Impact of lost/restricted/threatened capability:
Moderate

NTA affected by encroachment: 3.2.1.2, 1.5.6
R2R training impact & current workaround: Avoiding endangered species results in the creation of avoidance areas, a reduction in training days, prohibits certain training events, and reduces range access.
Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment? No.
Source of Encroachment: The Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA).
Recommendation: None.

5.3.2 Water Quality

Due to environmental pressure by the public in the Puget Sound, and motivated by Environmental law such as the Clean Water Act, NUWC has self-imposed measures to use biodegradable preservatives on shipboard equipment. However, the environmental friendly preservatives do not adequately protect metal from corrosion. Metal cables must be replaced frequently and shipboard machinery must be repaired and replaced more often.
Operational Impact of lost/restricted/threatened capability:
Moderate

NTA affected by encroachment: 3.2.1.2.

R2R training impact & current workaround: These self-imposed measures result in increased OMN costs.

Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment? No

Source of Encroachment: Self-imposed measures can exacerbate this issue, replacing expensive shipboard equipment.

Recommendation: Find a suitable product.

5.3.3 Range Transients

Shrimp season draws commercial and private fishing boats to Dabob Bay for several weeks in late April to mid June. For two to three days per week, 4 hours per day, up to 200 of these boats converge on Hood Canal, occasionally interfering with Sea Trials on Dabob Bay Range. Sometimes submarine events must be rescheduled. The presence of these fishing boats interferes with tightly scheduled Submarine operations, causing events to be rescheduled when only a small window of opportunity exists to meet the operational-deployment requirements of the submarine.

Additionally, native Indians fishing for clams & shrimp traverse across NUWC ranges without contacting NUWC Operations, thereby interfering with ongoing events.

Operational Impact of lost/restricted/threatened capability:
Moderate

NTA affected by encroachment: 1.3.1, 1.5.6, 3.2.1.2.

R2R training impact & current workaround: Creates avoidance areas, reduces training days, prohibits certain training events, reduces range access, segments training/reduces realism, limits application of new weapons technologies, and increases O&M costs.

Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment? Yes, Autonomous Undersea Vehicles are leading edge technology in ASW, MIW, and reconnaissance. Requirements for operational testing and training in these waters will likely increase the demand for range access, increasing the impact of lost range time due to transients.

Source of Encroachment: Fishermen in the range area.

Recommendation: Enforce the law: Dabob Bay Military Operating Area is restricted for Navy use to limit vessel traffic during test operations as outlined in 33 CFR § 334.1190.

5.4 ENCROACHMENT AT EOD RANGES

The underwater range sites for the Explosive Ordnance Disposal (EOD) units are the least in size but have significant encroachment issues. The three underwater sites consist of one in Crescent Harbor,
adjacent to NAS Northwest Training, one in Port Townsend Bay, adjacent to NAVMAG Indian Island, and one in Hood Canal, adjacent to SUBASE Bangor. Use of the NAVMAG Island and Bangor ranges is infrequent, with approximately four training events per year at each. The site in Crescent Harbor serves EOD Mobile Units, EODMU-11. Underwater detonations are essential to the mission of the EOD forces. By unit instruction at EODMU-11, maximum detonation net explosive weight (NEW) is 20 pounds. This size limit allows EOD teams to use their full compliment of EOD tools. In 2004, CNRNW placed a 6-month prohibition on EODMU-11 underwater detonations. Subsequently, CNRNW has directed EODMU-11 to comply with the conservation measures in the EOD BA (page 94). At the request of CNRNW, EODMU-11 has implemented a self-imposed normal use limit of 2.5 lbs NEW to help mitigate impact of underwater demolitions training. The standard charge size of 2.5 lbs NEW is currently being used, but up to 20 lbs NEW is still technically authorized.

The severe and moderate impacts were identified under Maritime Sustainability (Section 5.4.1), Airborne Noise (Section 5.4.2), Urban Growth (Section 5.4.3), Cultural Resources (Section 5.4.4), and Range Transients (Section 5.4.5) and will be discussed in the paragraphs that follow.

5.4.1 Maritime Sustainability

MMPA protection of orca pods, salmon migration, and other fish in summer months limit EOD water detonation training. EODMU-11 limits the NEW to 2.5 lbs at Crescent Harbor and NAVMAG Indian Island Underwater EOD Range, but charges up to 20 lbs. can be used. Marine mammals are seen at both ranges, and Seals occasionally visit Crescent Harbor Underwater EOD Range. When marine mammals are present, EOD personnel must postpone underwater detonations. EODMU-11 employs several mitigation measures during training exercises to reduce the potential effects of explosions on marine biota. These include:

• Surveying via boat within a 500-meter radius of the detonation site to determine whether marine mammals are present.
• The charge is not detonated if marine mammals or birds are within distances where injury could potentially occur.
• The charge is raised 10 ft above the seafloor prior to detonation to minimize impact to seafloor habitat.
• At Crescent Harbor and Port Townsend Bay sites, during the juvenile migration season (15 March – 01 July) for salmon and bull trout, charges larger than 5 lb should not be used. If it is necessary to use charges larger than 5 lb, up to 20 lb, these charges should be detonated at least 1000 m from the nearest shoreline. Charges should always be lifted at least 10 feet off the seafloor prior to detonation. This is expected
to greatly reduce the magnitude of occasional impacts to the seafloor and benthic community.
- At SUBASE site, charges larger than 1 lb should not be used during the juvenile migration season.

As stated in Chapter Four (4.2.5.2), EOD personnel must visually inspect for the presence of Sea Lions and Seals on “haul out” rocks in Crescent Harbor before conducting under-water detonations. These mammals are protected from harassment.

Operational Impact of lost/restricted/threatened capability: Moderate

NTA affected by encroachment: 1.3.1, 1.3.1.3.
R2R training impact & current workaround: These restrictions result in a reduction in training days, the prohibition of certain training events, and a reduction in range access, segment training/realism, limit application of new weapons technologies, reduce live fire proficiency, and increase Perstempo and OMN costs.

Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment? Unknown.
Advancements in UUV technology may lead to alternative methods to disarm an underwater mine instead of detonating it.

Source of Encroachment: Restrictions imposed by environmental regulation and perceptions on underwater detonations have a severe impact on EOD training requirements.
Recommendation: Look for new locations in existing restricted areas/ranges within the NWTRC.

5.4.2 Urban Growth

Urban Growth is currently assessed as a moderate impact but is expected to become a severe impact on EOD training in Crescent Harbor and Indian Island areas due to increasing presence of recreational and small commercial fishing boats and SCUBA diving.

Operational Impact of lost/restricted/threatened capability: Moderate.

NTA affected by encroachment: 1.3.1.3.
R2R training impact & current workaround: Results in reduced range access, reduced live fire proficiency, increased personnel tempo, and increased OMN costs.

Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment? Unknown.
Source of Encroachment: Civilian boats in the range area.
Recommendation: Establish a Restricted Area in Crescent Harbor for EOD underwater training.
5.4.3 Cultural Resources

Local Indian tribes apply significant political pressure to CNRNW, to stop EODMU-11 from conducting underwater detonations. CNRNW prohibited EOD training involving underwater detonations for 6 months in 2004. During this period, EOD training was conducted in San Diego.

**Operational Impact of lost/restricted/threatened capability:**
*Moderate.*

**NTA affected by encroachment:** 1.3.1, 1.3.1.3.

**R2R training impact & current workaround:** Reduces training days, prohibits certain training events, reduces range access, segments training/reduces realism, limits application of new weapons technologies, reduces live fire proficiency, increases personnel tempo, and increases OMN costs.

**Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment?** Unknown

**Source of Encroachment:** Fishermen in the range area.

**Recommendation:** Establish a Restricted area in Crescent Harbor for EOD underwater training.

---

5.4.4 Range Transients

Indian tribes set many crab traps ("pots") that rest on the sea floor, tethered to a small buoy floating on the surface. A multitude of these tether lines adversely impacts EOD underwater training as Navy swimmers search for training shapes in amongst recently deployed crab traps. Frequently the range has to be cleared of these traps and lines. Sometimes EOD personnel will go elsewhere to do training because of these encroachments.

Civilian pleasure (fishing) boats occasionally foul the Crescent Harbor Underwater EOD Range (Minimal impact).

Indian Tribes complain that under-water training detonations disrupt muscle beds and harm Dungenous crab (Minimal impact).

**Operational Impact of lost/restricted/threatened capability:**
*Moderate*

**NTA affected by encroachment:** 1.3.1, 1.3.1.3.

**R2R training impact & current workaround:** Results in segmented training and a reduction of realistic training, increased personnel tempo and increased OMN costs.

**Will introduction of new weapons systems, tactics or missions exacerbate impact of current encroachment?** No

**Source of Encroachment:** Native American fishermen on the EOD training area.

**Recommendation:** Establish a Restricted area in Crescent Harbor for EOD underwater training.
5.5 IMPENDING ENCROACHMENT CHALLENGES

On Kodiak Island, Alaska where NSW has a facility for conducting cold weather training, private residences are being built adjacent to the fence line of the main facility. This construction led to the fence being added on the boundary of the facility property.

5.6 ENCROACHMENT SUMMARY

Figure 5-1 is an Encroachment Issue Summary table listing those encroachment factors that have a severe or moderate impact on training in the NWTRC. The encroachment issue is color coded as either red for a severe impact or yellow for a moderate impact. Only severe and moderate impacts are included in the tables that follow. Priorities are assigned based upon the severity of the impacts to training and an evaluation of the requirement for investment or environmental planning to mitigate. A priority 1 investment is a result of a severe impact requiring POM 08 investment and/or immediate environmental planning. Priority 2 is a designation for a moderate impact requiring POM 08 investment and/or immediate environmental planning. Priority 3 is a designation for either a severe or moderate impact that requires neither a POM 08 investment nor immediate environmental planning.
<table>
<thead>
<tr>
<th>Encroachment</th>
<th>Recommendation</th>
<th>Investment Required: (Yes/No)</th>
<th>Environmental Planning Required: (Yes/No)</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endangered Species/ Critical Habitat</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>Crescent Harbor Underwater EOD Range</td>
<td></td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>Native Indian fishing in the range area apply pressure to stop underwater detonations.</td>
<td>Establish a Restricted Area in Crescent Harbor for EOD underwater training.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>UXO</td>
<td>NA</td>
<td>None</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Frequency Encroachment</td>
<td>NA</td>
<td>None</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Maritime Sustainability</td>
<td>Offshore Ranges</td>
<td>None</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>OCNMS critical habitat avoidance and marine mammal avoidance.</td>
<td></td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>NUWC ranges (DBRC, CFMETR, Keyport)</td>
<td>Marine mammal avoidance (Orcas and Pacific Right grey whales).</td>
<td>None</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Crescent Harbor Underwater EOD Range</td>
<td>MMPA protection of Marine mammals and salmon migration.</td>
<td>Yes</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Airspace Restrictions</td>
<td>Recommend exploration of sites for underwater detonation training in the NWTRC. (RCC staff increase)</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Darrington OAREA</td>
<td>Aircraft in Darrington have difficulty getting cleared above FL250; experience delays by Seattle ARTCC.</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Air Quality</td>
<td>NA</td>
<td>None</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Clean Water</td>
<td>DBRC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NUWC self-imposed use of biodegradable preservatives on shipboard equipment does not adequately protect metal from corrosion. Metal cables must be replaced frequently, machinery repaired and replaced more often.</td>
<td>Find a suitable product.</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Wetlands</td>
<td>NA</td>
<td>None</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5-1. Encroachment Issue Summary

5-22
### Encroachment

<table>
<thead>
<tr>
<th>Encroachment</th>
<th>Recommendation</th>
<th>Investment Required (Yes/No)</th>
<th>Environmental Planning Required (Yes/No)</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airborne Noise</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Urban Growth</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PACNORWEST OPAREA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seismic monitors placed on ocean floor by civilian organizations impact SSBN training &amp; transit routes.</td>
<td>None</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Crescent Harbor Underwater EOD Range</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increasing presence of recreational / commercial fishing boats and SCUBA diving.</td>
<td>Establish a Restricted Area in Crescent Harbor for EOD underwater training</td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td><strong>Range Transients</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NUWC – DBRC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Native Indians fishing throughout DBRC; interfering with acoustic operations.</td>
<td>Enforce the military restricted water area in DBRC for exclusive US Navy use, 33 CFR Section 334.1190.</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Crescent Harbor Underwater EOD Range</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Native Indian tribes set numerous crab traps (&quot;pots&quot;). Tether lines impede EOD training.</td>
<td>Establish a Restricted area in Crescent Harbor for EOD underwater training</td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Figure 5-1. Encroachment Issue Summary (Continued)

Figure 5-2 depicts the number of moderate and severe training impacts and their severity levels for each training factor.

#### Figure 5-2. Number of Training Impacts and Severity per Training Factor

<table>
<thead>
<tr>
<th>Training Factors</th>
<th>Number of Training Impacts and Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe</td>
</tr>
<tr>
<td>Creates Avoidance Areas</td>
<td>6</td>
</tr>
<tr>
<td>Reduces Training Days</td>
<td>9</td>
</tr>
<tr>
<td>Prohibits Training Events</td>
<td>10</td>
</tr>
<tr>
<td>Reduces Range Access</td>
<td>13</td>
</tr>
<tr>
<td>Segments Training/Reduces Realism</td>
<td>10</td>
</tr>
<tr>
<td>Limits application of New Technologies</td>
<td>6</td>
</tr>
<tr>
<td>Raises Flight Altitudes</td>
<td>1</td>
</tr>
<tr>
<td>Inhibits New Tactics Development</td>
<td></td>
</tr>
<tr>
<td>Complicates Night and All-Weather Training</td>
<td></td>
</tr>
<tr>
<td>Reduces Live-Fire Proficiency</td>
<td>5</td>
</tr>
<tr>
<td>Increases Personnel Tempo</td>
<td>5</td>
</tr>
<tr>
<td>Increase O&amp;M Costs</td>
<td>10</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>75</td>
</tr>
<tr>
<td><strong>Percent</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

5-23
The column chart in Figure 5-3 is a graphic display of the data in Figure 5-2.
Figure 5-4 depicts the number of moderate and severe training impacts and their aggregate severity levels for each encroachment issue. The training impact severity levels are recorded on the encroachment matrices.

<table>
<thead>
<tr>
<th>Encroachment Issues</th>
<th>Number of Training Impacts and Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe</td>
</tr>
<tr>
<td>Endangered Species/Critical Habitat</td>
<td></td>
</tr>
<tr>
<td>UXO/Munitions</td>
<td></td>
</tr>
<tr>
<td>Frequency Encroachment</td>
<td></td>
</tr>
<tr>
<td>Maritime Sustainability</td>
<td></td>
</tr>
<tr>
<td>Airspace Restrictions</td>
<td></td>
</tr>
<tr>
<td>Air Quality</td>
<td></td>
</tr>
<tr>
<td>Airborne Noise</td>
<td></td>
</tr>
<tr>
<td>Urban Growth</td>
<td></td>
</tr>
<tr>
<td>Cultural Resources</td>
<td></td>
</tr>
<tr>
<td>Water Quality</td>
<td></td>
</tr>
<tr>
<td>Wetlands</td>
<td></td>
</tr>
<tr>
<td>Range Transients</td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Percent</strong></td>
<td><strong>0%</strong></td>
</tr>
</tbody>
</table>

Figure 5-4. Number of Moderate and Severe Training Impacts per Encroachment Issue
The column chart in Figure 5-5 is a graphic display of the data in Figure 5-4.
Figure 5-6, depicts the number of moderate and severe training impacts for each encroachment issue and range area as portioned by the encroachment matrices. The encroachment matrices used to record training impacts are the sources for the number and severity of training impacts.

<table>
<thead>
<tr>
<th>Range Area</th>
<th>Endangered Species</th>
<th>UXO/Munitions</th>
<th>Frequency Encroachment</th>
<th>Maritime Sustainability</th>
<th>Airspace Restrictions</th>
<th>Air Quality</th>
<th>Airborne Noise</th>
<th>Urban Growth</th>
<th>Cultural Resources</th>
<th>Water Quality</th>
<th>Wetlands</th>
<th>Range Transients</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Range Sites</td>
<td></td>
<td>4</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>NUWC Keyport Sites</td>
<td></td>
<td>11</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>EOD Range Sites</td>
<td></td>
<td>25</td>
<td>2</td>
<td>4</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>NSW</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td>40</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>9</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Percent</strong></td>
<td></td>
<td>53%</td>
<td>1%</td>
<td>3%</td>
<td>8%</td>
<td>12%</td>
<td>3%</td>
<td></td>
<td>20%</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Figure 5-6. Number of Moderate and Severe Training Impacts per Encroachment Issue and Range Area
The column chart in Figure 5-7 is a graphic display of the data in Figure 5-6.

![Column Chart](image-url)
The table in Figure 5-8 depicts the number of moderate and severe training impacts for each training impact factor and range area as partitioned by the encroachment matrices. The matrices used to record training impacts are the sources for the number and severity of training impacts.

<table>
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<td>EOD Range Sites</td>
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<td></td>
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<td>100%</td>
</tr>
</tbody>
</table>

Figure 5-8. Number of Moderate and Severe Training Impacts per Factor and Range Area
The column chart in Figure 5-9 is a graphic display of the data in Figure 5-8.

Figure 5-9. Number of Moderate and Severe Training Impacts per Factor, without the Range Area
Figure 5-10 depicts the number of moderate and severe training impacts in individual cells and their aggregate severity levels for each range area. The training impact severity levels are recorded on the detailed encroachment matrices as they are partitioned for range areas.

### Number of Training Impacts by Severity

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<th>Total</th>
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<td>43</td>
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</tr>
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<td>NSW</td>
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<td>0</td>
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<tr>
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<tr>
<td>Percent</td>
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</tbody>
</table>

**Figure 5-10. Summary of Moderate and Severe Training Impacts for the Northwest Training Range Complex**
The column chart in Figure 5-11, is a graphic display of the data in Figure 5-10.
6 RANGE COMPLEX STRATEGIC PLANNING

6.1 STRATEGIC VISION AND MANAGEMENT OBJECTIVES

6.1.1 Strategic Vision

The Fleet Forces Command (FFC) strategic vision for the Northwest Training Range Complex (NWTRC) is to provide sustainable and modernized ocean operating areas, airspace, ranges, range infrastructure, training facilities, and resources to fully support the Fleet Readiness Training Plan (FRTP) (Department of the Navy [DON], 2003a) in accordance with assigned roles and missions (DON 2005a). For purposes of Fleet training, the NWTRC includes training operations that occur at the Naval Undersea Warfare Center (NUWC) Keyport Range Areas including Dabob, Keyport, and Nanoose Ranges. NWTRC is the principal backyard range for surface, submarine, aviation, and Explosive Ordnance Disposal (EOD) units located at Naval Air Station (NAS) Whidbey Island, Naval Station (NS) Everett, Naval Base Kitsap – Bremerton, Naval Base Kitsap – Bangor, and Puget Sound Naval Shipyard.

The strategic vision for the NWTRC includes eventual certification of training, exercise, and communications related systems at Naval Base Kitsap – Bremerton to host accredited Joint National Training Capability (JNTC) events.

6.1.2 Management Objectives

The NWTRC must be managed in a manner that: 1) supports national security objectives and maintains readiness of Naval forces and 2) ensures the long-term viability of the range complex while protecting human health and the environment. The principal management objectives for the NWTRC are: sustain, upgrade, modernize, and transform.

6.1.2.1 Sustain

The NWTRC must support today’s training today.

Unconstrained Range Access

Sustainment must assure current and future access to the range complex for pre-deployment and other training requirements, and address the prevention or mitigation of the impacts of encroachment on training operations.

Efficient, Effective Range Management Structure

In addition, the NWTRC must possess systems and procedures that facilitate efficient range management and realistic training operations through effective, efficient range communications and scheduling.

The Navy Required Capabilities Document (RCD) (DON 2005b)
outlines the specific communications and scheduling requirements a range must possess to support individual warfare areas.

**Comprehensive Information Management Processes**

Lastly, the NWTRC must collect, analyze, and use pertinent range utilization data for range management, training operations, ordnance expenditures, and environmental planning and compliance. These processes are imperative for future planning of range improvements, investments, and encroachment mitigation. The data management processes should also be compatible with data processes being used on other range complexes for ease in data comparison and sharing.

### 6.1.2.2 Upgrade

The NWTRC must support today’s training tomorrow. To do so, the range must be adequately funded to maintain and improve the capabilities that reside in current range hardware and software assets. Funding should support the upgrade of current capabilities to: achieve those capabilities currently required of the complex, avoid obsolescence, replace equipment that has reached the end of useful service life, and promote greater interoperability with other range complexes which includes ensuring that range systems are Test and Training Enabling Architecture (TENA) compliant.

### 6.1.2.3 Modernize

The NWTRC must support tomorrow’s training tomorrow. Navy training must continually evolve to keep pace with new technologies, capabilities, and threats. This requires a 10-year, forward-looking plan to be developed and maintained to identify future required range complex capabilities, including range facilities, airspace, sea space, undersea space, and ground space necessary to keep pace with war-fighting developments and support the training concept of operations. This plan must also include those processes to ensure systems meet TENA requirements, ultimately improving existing capabilities. Range complex capabilities are defined in the Navy RCD.

### 6.1.2.4 Transform

The NWTRC must transform in accordance with Department of Defense (DoD) and Navy Training Transformation (T2) objectives (DoD 2006a). The DoD objective of T2 is to provide dynamic, capabilities-based training for the Department of Defense in support of national security requirements. Similarly, the Navy’s objective of T2 is to rapidly develop, then sustain readiness in, ships and squadrons so that, in a crisis situation, the Navy can quickly surge significant combat power to a crisis scene.

**Training Transformation**

In 2002, the DoD began the process of T2 (DoD 2002a and DoD 2004a). The FY04 Defense Planning Guidance for the implementation of T2 had ramifications for the Navy’s system of
ranges in that it directed that twenty-five percent of all major training
events must be joint.

The focus of T2 is on using modeling and simulation to complement
and enhance constrained live training time with virtual training
events conducted in a synthetic battle space. Persistent networking
of Service training capabilities will provide a continuous virtual
environment for training forces at all levels in the live, virtual, and
constructive (LVC) environment in multi-warfare mission areas and
meet the Combatant Commanders’ tactical and strategic
requirements.

There are three capabilities that form the foundation for DoD T2. It
is through these capabilities that Combatant Commanders receive
better trained and prepared forces to meet their mission needs. These
capabilities are: 1) Joint Knowledge Development and Distribution
Capability (JKDDC), 2) JNTC, and 3) Joint Assessment and
Enabling Capability. The most important of these capabilities when
determining range objectives for transformation is JNTC. JKDDC
will prepare future decision-makers and leaders to employ joint
operational art, understand the common relevant operating picture,
and respond innovatively to adversaries. It will develop and
distribute joint knowledge via a dynamic, global-knowledge network
that provides immediate access to joint education and training
resources. The Joint Assessment and Enabling Capability will assist
leaders in assessing the value of transformational initiatives on
individuals, organizations, and processes by evaluating the level of
joint force readiness to meet validated combatant commander
requirements. It will also provide essential support tools and
processes to enable and enhance the JKDDC and the JNTC (DoD
2006a).

The T2 goals for major training centers and ranges are based on four
pillars: (1) realistic combat training, (2) opposing forces, (3) ground
truth, and (4) feedback. The strategic plan for the range complexes
will be developed in the context of these pillars. These pillars map
the NWTRC attributes as follows:

- **Realistic combat training:**
  - Live training with simulation-stimulation capability
  - Provides joint context
  - Based on joint doctrine-tactics-techniques
  - Mission rehearsal tied to Standing Joint Force Headquarters

- **Opposing forces:**
  - Representative real world air threat
  - Advanced, integrated threat systems representative of real
    world threat
  - Diverse, high-fidelity targets
  - Mobile, time-sensitive targets
In order to support these pillars, training range complexes must establish investment programs that include investment in JNTC for:

- Mission rehearsal and joint training integrated with Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR)
- Interoperable live, virtual, and constructive training systems
- Modernizing and instrumenting ranges, areas, airspace, and range systems

The emphasis on joint training reflects the fact that all U.S. military operations will be joint and forces must train accordingly. While the Navy has not yet designated all range sites to be JNTC certified, strategic planning for the NWTRC should proceed in anticipation of its role as a part of the JNTC system of ranges. To achieve affordability and efficiency, service requirements should be synchronized with joint requirements wherever possible.

**Joint National Training Capability**

JNTC supports T2 in that it will prepare forces by providing command staffs and units with integrated LVC training environment that includes appropriate joint context, and allows global training and mission rehearsal in support of specific operational needs.

The vision is for the LVC simulation environment to be available globally on a 24-hour basis and linked to real-world command and control systems. JNTC can be used to train forces against a general threat, to conduct mission rehearsal against a specific threat, or to experiment with new doctrine, tactics, techniques, procedures, Joint Operational Concepts, and equipment.

JNTC reached a major milestone in October of 2004 with the achievement of initial operational capability (IOC) through the integration of a network of live ranges, simulations, and simulators in support of a joint exercise. DoD has set fiscal year 2009 (FY 09) as its goal for full operational capability (FOC) for all JNTC events (DON 2004b).
The JNTC process includes review and certification of sites and systems to host JNTC events and review and accreditation of service training programs and exercises as JNTC events.

As Part of JNTC, TENA developed by the Central Test and Evaluation Investment Program (CTEIP) as a common architecture with the requisite software to integrate testing, training, simulation, and high-performance computing technologies distributed across many facilities. Through the establishment of a common architecture, reuse and interoperability of test and training range assets are tremendously improved, thus reducing range development, operation, and maintenance costs.

The Navy has been involved in JNTC development from its inception. As a historically joint Service with the Marine Corps, the Navy realizes the force multiplying results through leveraging capabilities across Service lines. The ongoing transformation of naval forces seeks to dramatically expand the advantage that America’s global maritime dominance offers our joint force commanders, by assuring them theater access and a secure and sovereign base from which to mount devastatingly effective offensive and defensive operations. The emerging transformational capabilities reflect the creation of innovative operational and training concepts that will harness advanced technologies as well as changes across doctrine, organization, training, materiel, leader development, personnel, and facilities to perform critical missions and tasks.

**Navy Continuous Training Environment**

The Navy’s Continuous Training Environment (NCTE), in conjunction with JNTC, will provide the capabilities to conduct training on demand, saving time, manpower, and additional costs by providing a persistent network that connects geographically dispersed training simulators and systems with geographically dispersed forces. NCTE will:

- Consist of Modeling and Simulation (M&S), federations, software, tactical training ranges, infrastructure, and forces joined in a common network for training events, with a management and scheduling office providing central control of the units on the network.
- Meet required capabilities through the use of TENA standards that set data definition and transmission requirements for diverse, Service and joint-specific training, and operational systems and ranges as well as to joint systems.
- Serve as the Navy’s common portal for connecting to individual Services’ training networks, M&S systems, and forces.
- Ensure new training systems adhere to defined standards.
- Update legacy systems to meet the new standards.
• Provide independent communications to support simulation and control functions, with consideration for disadvantaged communication users where this impacts them (i.e., ships at sea).

• Ensure integration of tactical communications and the supporting standards.

• Control infrastructure standards among Services and common C4I interface standards (DON 2004a).

To this effect, NTCE will:

• Support the Fleet Response Plan (FRP) by providing qualified and certified surge forces, capable of sustaining readiness levels in support of Combatant Commanders’ requirements. The synthetic battle space provides the capability for rapid refresher training and re-qualification of joint task forces.

• Support the Fleet Training Continuum as a single model for training, whether on the east coast, west coast, or for forward deployed forces that use virtual training capabilities to implement the training and surge force requirements.

• Provide training validation of joint and Fleet requirements found in Joint and Navy Mission Essential Task Lists (JMETLs and NMETLs respectively).

• Assist in the development of simulation systems to support Fleet training, qualifications, and mission rehearsal requirements that are fundamental to sustaining legitimate operational readiness (DON 2004a).

Strategic planning for the NWTRC through 2016 will include support for these future training operations.

6.2 Strategic Mission

The strategic mission of the NWTRC is to support naval operational readiness by providing a realistic, live-training environment for forces assigned to the Pacific Fleet and other users. As its highest priority, the range complex will support the FRTP readiness process in support of the FRP (DON 2003a). The FRP: 1) builds upon the inherent capability to deliver major combat operations (MCO) ready forces, 2) enables Navy defense in depth in the Global War on Terrorism (GWOT) and homeland defense, 3) maintains strong forward deployed forces with inherent capacity to support surge operations upon Combatant Commander demand signals, and 4) uses cost effective approach to enhance readiness (GWOT surge) and better align forces to meet emergent/transforming threats.

Under FRP, the Navy must be able to provide the nation “six-plus-two” ready Carrier Strike Groups (CSGs) (i.e., six CSGs deployed or ready to deploy within 30 days and two others ready to go within approximately 90 days). Navy leadership will review this six-plus-
two CSG goal periodically, with adjustments made in response to the geopolitical situation.

Maintaining a robust surge capability requires a new methodology to handle manning, maintenance, training and readiness. The FRTP, a 27-month cycle that includes four phases prior to deployment (maintenance, unit level training, integrated training and sustainment), supersedes the Interdeployment Training Cycle (IDTC) previously used by the Navy to train forces in order to meet rotational deployment and presence requirements.

The FRTP is mission essential task specified training in support of FRP certification and has the capability to adapt to changing global demand signals.

This strategic mission implements the strategic vision in paragraph 6.1.1 above.

6.2.1 Attributes

The Draft Ranges to Readiness (R2R) study was completed in 2001 for the Atlantic and Pacific Fleets (DON 2001a). This study developed a quantitative method to analyze the contribution of each range complex to Fleet training readiness. The strategic planning process starts with an examination of the R2R analysis to gain initial insight and Fleet perspective into the importance and value of the range complex. An additional study, the Fleet Forces Command Integrated Training and Test Range Strategic Study (FFC Strategic Study), was completed in July of 2005 (DON 2005a). This study expanded upon the R2R analysis, comparing each range’s capabilities with those capabilities required in the RCD. It also outlined a strategic vision for each of the range complexes based on range attributes, capabilities, and Fleet unit density.

It is important to note that these studies provided only a starting point for the analysis contained within this RCMP. The authors were diligent in forming original conclusions based only on the analysis conducted herein.

Northwest Training Range Complex Attributes

The R2R analysis and FFC Strategic Study identified the NWTRC as having specific attributes, or factors, which make it an important complex for naval readiness training. The following paragraphs describe these, as well as other attributes of the range complex.

Sea and Undersea Space. The NWTRC includes the Pacific Northwest Ocean Surface/Subsurface OPAREA, totaling over 126,000 square nautical miles (nm$^2$) of sea and undersea space. Included in this area is 34,000 nm$^2$ of Warning Area special use airspace. Also, the Puget Sound is home to surface training areas,
shallow water submarine and small unit amphibious operating areas suitable for EOD and Naval Special Warfare (NSW) training missions. It contains instrumented undersea tracking ranges at the Dabob Bay and Quinault Range Sites that provide some of the most accurate underwater tracking in the world.

**Airspace.** In addition to the Warning Area airspace, the NWTRC schedules and controls nearly 12,000 nm² of Military Operating Areas (MOAs) and restricted airspace. This airspace, covering portions of the Puget Sound, Washington, and Oregon, is ideally suited for a variety of training activities including electronic combat, mine warfare, air-to-ground strike training, and air combat maneuver training. The complex also contains twelve military training routes (MTRs). The six visual routes and six instrument routes add up to over 3,651 nautical miles (nm) of low-level training capability.

**Land Area.** One of the complex’s greatest assets is Naval Weapons Systems Training Facility (NWSTF) Boardman, located in Boardman, Oregon. NWSTF Boardman consists of 47,982 acres of valuable training range land. Second in size only to Fallon’s range area, Boardman is larger than any other Navy-owned parcel of training land. The Boardman range is suitable for air-to-ground (A-G) operations or for a variety of Army, Marine Corps, or NSW ground training missions. In addition to the land area, Boardman is completely covered by special use airspace extending from the surface to 20,000 feet. This airspace adequately supports all ground missions, plus several air missions including electronic combat and unmanned aerial vehicle (UAV) flight training and testing.

**Proximity.** The NWTRC serves as a backyard range for those units homeported in the Pacific Northwest area including those aircraft, surface ships, and submarines homeported at NAS Whidbey Island, NS Everett, Naval Base Kitsap – Bremerton, Naval Base Kitsap – Bangor, and Puget Sound Naval Shipyard. NWSTF Boardman is located within range of both NAS Whidbey Island and the Fallon Range Complex (and is connected to Fallon by an MTR). Air wings training in Fallon have previously requested to conduct strike training missions at Boardman. The Boardman target range is also within striking distance of aircraft carriers operating in the Offshore Area. In addition to U.S. Forces, the complex serves the units of the Canadian Pacific Fleet based in Esquimalt, BC.

**Uniqueness.** The NWTRC is unique in that it offers training across the spectrum of Naval missions. It also has relatively unencumbered RF spectrum for Electronic Combat (EC) training including the ability to expend chaff in several areas of the complex. Future potential training operations could include aircraft launching at sea within one of the Navy’s largest ocean ranges and flying a low-level route to Boardman where a target is being laser designated by Naval Special Warfare personnel. Additional range attributes include: precise fixed and portable undersea instrumentation at NUWC
Keyport and Nanoose, EC capabilities with the 15E34B signal threat simulator at outlying landing field (OLF) Coupeville and the currently inactive 15E34A simulator at NAS Whidbey Seaplane Base, minimal environmental encroachment on operations, littoral training capabilities, and ability to support joint special operations forces (SOF) training.

**Ordnance.** The complex is capable of supporting air-to-air (A-A), air-to-surface (A-S), air-to-ground (A-G), surface-to-air (S-A) and surface-to-surface (S-S) bombing, missile and gunnery exercises. Although air-to-ground operations have been reduced, the Boardman range is capable of continuing this mission area.

**Warfare Areas Supported.** The range complex currently supports training in seven Primary Mission Areas (PRMARs) to include Anti-Air Warfare (AAW), Anti-Surface Warfare (ASUW), Anti-Submarine Warfare (ASW), Mine Warfare (MIW), Strike Warfare (STW), EC, and NSW/EOD.

**Training Levels Supported.** The NWTRC supports FRTP training at all levels. It is primarily focused on support at the unit and intermediate level, although the possibility exists to support some advanced level training events.

**Utilization.** Based on number of operations, the NWTRC is the third most heavily used of the Pacific Range Complexes, the bulk of the use being by aircraft conducting ASW (P-3) and EC (EA-6B).

**Instrumentation.** Range instrumentation capabilities include the Shipboard Electronic Systems Evaluation Facility (SESEF) Range, the NUWC Keyport fixed underwater instrumented areas of Dabob Bay and Nanoose, the Keyport portable underwater test and tracking systems, and the EC capabilities at OLF Coupeville. Boardman can support laser targeting but the laser targeting system instrumentation has been removed.

**Targets.** The Boardman Range has a number of targets including a vehicle convoy, tanks, surface-to-air missile mock-ups, a laser bull’s-eye, and a ringed center bull target. Scoring instrumentation for these targets has been removed, but the towers still remain. NUWC Keyport has the capability to provide MK 30 ASW targets and Expendable Mobile ASW Training Targets (EMATT).

**Area of Training Space.** The NWTRC has a large amount of land, air, and surface/subsurface range area within the complex boundaries. In fact, of the three main training space attributes (land, air, and sea area), only the Southern California (SOCAL) and the NWTRC range complexes exceed requirements in all three areas. When compared to the SOCAL Range Complex, the NWTRC has both more land and a larger sea area.
6.2.2 Mission Needs

Mission needs for the NWTRC flow from the strategic vision and mission in support of the FRTP. The FRTP events are described in Commander Third Fleet (COMTHIRDFLT) Operations Order 201 (OPORD 201) (DON, date unknown), the Fleet Training Strategy (COMFLTFORCOMINST 3501.3A, December 2003) (DON 2003a), and the “Standard Carrier Strike Group/Staff Inter-Deployment Training Cycle” (CFFC message Date-Time Group (DTG) 012113Z Jul 03) (DON 2003c). The mission needs for the complex are:

- Support AAW, ASUW, ASW, EC, MIW, NSW/EOD and STW in the basic (maintenance/unit phase) and intermediate (Unit Level Training) phases of the FRTP.
- Support Unit Phase training of the FRTP as a remote range for naval forces based in the Pacific. By training at a remote range compared to a backyard range, personnel see and train in a variety of training venues, thus training in an unfamiliar environment which adds to realism.
- Support Unit Phase training for new units that will become operational in the future, including the EA-18G Growler and various Unmanned Aerial Vehicles (UAVs), if basing plans include the Pacific Northwest area as a training or basing location for the programs.
- Continue to support research, development, testing, and evaluation (RDT&E) activities to the extent practicable within existing range capabilities. Resource requirements for RDT&E that go beyond existing capabilities will be the responsibility of the sponsoring command or agency.
- Support, to the extent practicable within existing range capabilities, training by foreign naval and military forces that are periodic users of the range complex.

6.2.3 Roles and Missions of the Northwest Training Range Complex

The required roles and missions to support the strategic vision for the NWTRC are defined as warfare areas and levels of training, and listed in Figure 6-1. The complex is required to support training in seven Navy Primary Mission Areas: AAW, ASUW, ASW, EC, MIW, NSW/EOD and STW. These roles and missions are based on requirements as determined by CFFC and do not reflect a range complex’s capabilities.

The levels of training complexity are identified as basic, intermediate, and advanced and refer to the relative scope and complexity of the training. While the levels of training do not correlate exactly with the FRTP phases of training (maintenance/unit, integrated, and sustainment), in general:

- Basic-level training equates to unit-level training with a focus on the development of basic skills.
• Intermediate-level equates to the initial integrated training of a Strike Group. A Composite Training Unit Exercise (COMPTUEX) is a typical intermediate event.

• Advanced-level equates to large scenario-driven exercises, usually in a joint and/or combined environment, which focus on Strike Group crisis action planning, and command and control. A Joint Task Force Exercise (JTFEXs) is a typical advanced event.

<table>
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<th>Advanced</th>
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<td>STW</td>
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</tbody>
</table>

Source: FFC Training and Testing Range Strategic Study, 2005 (DON 2005a) as modified by CPF decision of February 2007

Figure 6-1. Navy Prioritized Roles and Missions for the Northwest Training Range Complex by Warfare Area

The relative importance of required capabilities for each warfare area and training level, consistent with the strategic vision, are indicated as a numbered priority. Priorities are assigned to mission areas based on urgency of need, available alternatives, and for the development of investment priorities for the range complex. Priority 1 equates to high priority mission areas that must be maintained through investment and encroachment mitigation. Priority 2 equates to medium priority mission areas that should be maintained through investment and encroachment mitigation. Priority 3 equates to low priority mission areas that could be maintained through investment and encroachment mitigation should the mission area become essential to support. Blank in a role and mission block indicates the range has not been assigned a role and mission for that mission area.

For example, basic level training in the ASW area is priority 1 for the complex because of the requirement of individual P-3 units from NAS Whidbey Island to access this backyard range complex quickly from the air station.

The required capabilities are not intended to limit training that may be conducted within the complex. Rather, they are identified to provide guidance for the development of prioritized range complex capabilities and investments. The capabilities of the NWTRC will evolve and modernize as new weapons systems achieve IOC, new threat capabilities emerge, and new technologies offer improved training opportunities.
In addition to the primary mission areas (PRMARs) that the complex supports, it also should be capable of supporting intelligence, surveillance, and reconnaissance (ISR) flight training for the P-3, EP-3, EA-6B, UAVs and follow on aircraft to the P-3 and EA-6B (the EA-18G and the Multi-mission Maritime Aircraft (MMA) respectively) and surface, submarine and ground ISR assets of the DoD and North Atlantic Treaty Organization (NATO) allies within the region. The ISR mission overlaps with many PRMARS and is a primary mission for the P-3 and follow on MMA aircraft. The range must be capable of meeting certain requirements in order to train for the ISR mission. These unique range requirements and the complex’s ability to fulfill them will be discussed in depth in chapter 7 of this RCMP.

6.3 FACTORS INFLUENCING FUTURE REQUIREMENTS AND OPERATIONS

6.3.1 Modernization

The NWTRC will continue to play a crucial role in supporting pre-deployment training for Pacific Fleet naval operational forces to 2016 and beyond in accordance with assigned roles and missions. Factors influencing future requirements and training operations in the complex that must be incorporated into strategic planning include, but are not limited to, new mission areas, new weapon platforms, new weapon systems, and new instrumentation technology.

6.3.1.1 New Mission Areas

Littoral warfare is an emerging Navy mission area. Current plans do not call for the homeporting of Littoral Combat Ships (LCS) in the Pacific Northwest, although they could eventually be homeported at NS Everett. The introduction of LCS by the Fleet may require the NWTRC to support choke point training and littoral warfare at the basic, intermediate, and advanced levels because of its unique straits and island topography. This may require investment in targets and instrumentation beyond current capabilities.

The modification of four Ohio Class Ballistic Missile Submarines (SSBN) to Guided Missile Submarines (SSGN), two of which will be homeported at Naval Base Kitsap - Bangor, could add the requirement to conduct NSW and STW training events in the NWTRC. These requirements may require investment in instrumentation, targets, and environmental studies beyond current coverage and capabilities.

The replacement to the EA-6B Prowler, the EA-18G Growler, will be based at NAS Whidbey Island. The EA-18G Fleet Introduction Team has stated the following training requirements that will impact the NWTRC:
Later versions of the Growler will include an air-to-ground weapons capability.

The planned EA-18G training syllabus calls for low altitude training at altitudes as low as 200 ft above ground level.

The Growler will have a greater airspeed capability than the EA-6B and will require low altitude training at higher speeds.

6.3.1.2 New Weapon Platforms

The range complex will be required to support training for platforms as they reach IOC. These platforms include, but are not limited to, the SSGN, EA-18G Growler, Unmanned Aerial Vehicles (UAV) and Unmanned Undersea Vehicles (UUV).

Guided Missile Submarine (SSGN)

Four Ohio-class Trident submarines that were previously scheduled for inactivation during Fiscal Years 2003 and 2004 are being converted to guided missile submarines over a five-year period ending in 2008. The primary missions of the SSGN will be land attack (STW) and SOF insertion and support. Secondary missions will be the traditional attack submarine missions of ISR, battle space preparation, and sea control.

These ships will be armed with up to 154 Tomahawk or Tactical Tomahawk land attack missiles. They will have the ability to carry and support a team of 66 SOF personnel for up to 90 days as compared to 15 days for a SOF outfitted fast attack submarine (SSN). Clandestine insertion and retrieval of these Special Operations Forces will be enhanced by the ability to host dual dry deck shelters and/or Advanced Seal Delivery System. Each SSGN will be able to conduct a variety of peace-time, conventional deterrent, and combat operations all within the same deployment. The USS OHIO returned to service February 07, 2006. IOC for the remaining three SSGNs is expected in FY 2007.

EA-18G Growler

The EA-18G is an Electronic Attack (EA) aircraft designed to replace the aging EA-6B Prowler in the Suppression of Enemy Air Defense (SEAD) mission. The EA-18G is expected to perform full-spectrum electronic surveillance, stand-off and escort jamming, and missile attack against enemy threat radars and communications nets. It is fitted with the same AN/ALQ-99 Tactical Jamming System (TJS) pods as the EA-6B. It will also carry the ALQ-218 Airborne Electronic Attack (AEA) system, scheduled for IOC on the EA-6B in FY05, which will provide state-of-the-art selective-reactive and pre-emptive jamming capability. Additionally, the AEA communications receiver and jamming electronics will provide electronic suppression and attack against communication threats. The Growler will have an improved version of the air/ground attack
radar currently installed in the F/A-18 Hornet, the AN/APG-79
Active Electronically Scanned Array (AESA). A tactical radar for
air-to-air and air-to-ground operations, it can search, track, and scan
moving targets on the sea surface and on the ground. The EA-18G is
more than 90 percent common with the standard Super Hornet.

The EA-18G provides a supersonic capability that did not reside in
the EA-6B. It also adds the inherent strike capability to attack
enemy targets as well as conduct the Electronic Attack role. The
EA-18G lethal attack capability slated for 2014 and beyond may
include air-to-surface missiles. The Growler will be permanently
based at NAS WI. IOC is expected in FY09.

Unmanned Aerial Vehicles (UAV)

Broad Area Maritime Surveillance (BAMS) UAV. The BAMS
UAV is being designed to support persistent, worldwide access
through multi-sensor, maritime ISR providing unmatched awareness
of the battlespace. It will support a spectrum of Fleet missions
serving as a distributed ISR node in the overall naval environment.
These missions include maritime surveillance, Battle-Damage
Assessment (BDA), port surveillance and homeland security support,
MIW, maritime interdiction, ASUW, counter drug operations, and
battlespace management. The BAMS will operate at altitudes above
40,000 feet, above the weather and most air traffic to conduct
continuous open-ocean and littoral surveillance of targets as small as
exposed submarine periscopes. Operation of these systems could
produce new requirements for range complexes in terms of airspace
and frequency management. IOC is anticipated for FY09.

Fire Scout (RQ8A/MQ-8B) UAV. The Fire Scout UAV is a
Vertical Takeoff and Landing UAV (VTUAV) designed to operate
from air capable ships, carry modular mission payloads, and operate
using the Tactical Control System and Tactical Common Data Link.
It will provide day/night real time ISR and targeting, communication-relay, and battlefield management capabilities to
support LCS mission areas of ASW, MIW, and ASUW. It is also
being tested as a weapons delivery platform to include 2.75 inch
rockets and Hellfire missiles. Operation of these systems could
produce new requirements for the NWTRC in terms of airspace and
frequency management. Fire Scout will be fielded with LCS flight 0
in FY07 but may be employed from other platforms.

Joint Unmanned Combat Air System (JUCAS). The JUCAS
program is a joint Defense Advanced Research Programs Agency
(DARPA)/Air Force/Navy effort to demonstrate the technical
feasibility, military utility, and operational value for a networked
system of high performance, weaponized UAVs to effectively and
affordably execute 21st century combat missions, including SEAD,
surveillance, and precision strike within the emerging global
command, and control architecture. Operation of these systems
could produce new requirements for range complexes in terms of airspace, frequency management, and target sets. Northrop Grumman and Boeing are developing concept JUCAS airframes simultaneously. IOC of these systems has not yet been established.

**Unmanned Underwater Vehicles (UUV)**

**Long-Term Mine Reconnaissance System (LMRS).** The LMRS AN/BLQ-11 is a clandestine mine reconnaissance system that employs UUVs capable of launch and recovery from attack submarines. The LMRS will provide an early, rapid, accurate means of surveying potential mine fields. The LMRS was scheduled to be deployed in Los Angeles and Virginia class submarines beginning in FY05. However, the program was cancelled in favor of the Mission Reconfigurable Unmanned Undersea Vehicle (MRUUV) after delivery of several LMRS.

**Mission Reconfigurable Unmanned Undersea Vehicle (MRUUV).** The MRUUV, a follow-on program to the LMRS, is a larger diameter UUV that will conduct clandestine minefield reconnaissance, deliver a clandestine intelligence preparation of the battlespace capability, and will be reconfigurable to conduct visual and electromagnetic ISR missions. MCM capabilities will include bottom mapping for change in bottom contour detection and mine localization and classification. The MRUUV will also be compatible with the LCS and SSGN platforms and provide more than 40 hours of autonomous endurance. IOC is scheduled for FY11.

### 6.3.1.3 New Weapons and Sensor Systems

The NWTRC will be required to support new weapons, sensors, and communications systems as they reach IOC. Evaluation of the requirements and impacts these new systems will have on the range should be a priority.

**5-Inch Gun Ordnance**

The High Explosive Projectile (HE-ET) is a high explosive projectile that has improved performance characteristics of the Electronically Timed (ET) fuse. The HE-ET round is produced by converting existing high explosive variable timed projectiles (HE-CVT). The Kinetic Energy Projectile (KE-ET), commonly called the “BB” round, is designed to be fired at incoming boats. The round contains 9000 tungsten pellets, which improves lethality against troops and small boats. IOC for both the HE-ET and KE-ET rounds was FY05.

**Improved Extended Echo Ranging (IEER) Sonobuoy**

The IEER system is an improved multi-static active acoustic sensor, which employs a new sonobuoy coupled with improved processing algorithms to extend the EER deep-water search capability into the shallow waters of the littoral.
The IEER system was developed in response to the fleet need for a large-area search capability against diesel submarines operating in littoral waters. The system combines a new sensor, the AN/SSQ-101 Air Deployed Active Receiver (ADAR) sonobuoy with improved software in the P-3C Update III aircraft.

The ADAR sonobuoy employs a multi-element planar hydrophone acoustic array to improve detection in shallow littoral waters. This improved sensor, when coupled with the ASW improvement program’s (AIP’s) powerful acoustic post-processor, the USQ-78A, will provide Maritime ASW aircrews with the tools necessary to effectively prosecute the difficult task of ASW search in littoral waters.

The AN/SSQ-110/A Extended Echo Ranging (EER) sonobuoy is an expendable, non-repairable sonobuoy that is a commandable, air dropped, high source level acoustic source. It operates on one of 31 selectable RF channels and has two sections. The upper section is called the control buoy and is similar to the upper electronics package of the AN/SSQ-62 DICASS sonobuoy. The lower section consists of two Signal, Underwater Sound (SUS) explosive payloads of Class A explosive weighing 4.2 pounds each. The IEER System has already reached full operational capability (FOC).

Advanced Extended Echo Ranging (AEER)

The AEER program examines improvements in both long-range shallow and deep water ASW search using active sources (Air Deployable Low Frequency Projector [ADLFP], Advance Ranging Source [ARS], and passive sonobuoy receivers [ADAR]). The signal processing is provided by research conducted under Advanced Multi-static Processing Program (AMSP).

The AEER system is similar to the IEER system in that it uses the AN/SSQ-101 ADAR sonobuoy. But instead of the SSQ-110A EER Sonobuoy it is coupled with the SSQ-125 Air Deployable Coherent Source Sonobuoy. The SSQ-125 system is in the R&D stage with two types of sensor technology being considered (the ADLFP and ARS). The buoy is intended to provide the user with a sonobuoy with an improved bi-static acoustic source and better signal processing for harsh water environments. IOC for the AEER system is unknown.

6.3.1.4 New Instrumentation Technology

The NWTRC will acquire improved technology and capabilities to score, track, and provide feedback. Technology is also permitting the fielding of non-fixed site, mobile tracking ranges.
Portable Undersea Training Range (PUTR)

The Portable Undersea Training Range (PUTR) is a self-contained, portable, undersea tracking capability that employs modern technologies to support coordinated USW training for Forward Deployed Naval Forces (FDNF). Similar to the portable system available at NUWC Keyport, the PUTR will be available in two variants to support both shallow and deep water remote operations in keeping with Navy requirements to exercise and evaluate weapons systems and crews in the environments that replicate the potential combat area. The system will be capable of tracking submarines, surface ships, weapons, targets, and unmanned undersea vehicles and distribute the data to a data processing and display system, either aboard ship, or at a shore site.

Portable Undersea Tracking System (PUTS)

The Portable Undersea Tracking System (PUTS) is a self-contained, portable, undersea tracking capability that was developed specifically for the Virginia Class Submarine MIW Operational Evaluation. This system is comprised of 99 bottom mounted acoustic modems with an acoustic release mechanism giving it a 100nm^2 area of coverage. The modems are deployed and surveyed in place. The Submarine transits through the range field and triangulates position from the known modem posits to obtain precision independent and ground truth track. While this system has been developed specifically for VA Class MIW OPEVAL, it should be able to also support training objectives.

6.3.1.5 Improved Target Replication

The NWTRC will keep pace with real-world threats by continuously improving the physical and electronic targets presented to operating forces. NWSTF Boardman offers a great target range where realistic targets could be used.

6.3.1.6 Live-Virtual-Constructive (LVC) Training

The DoD T2 initiative envisions future training to be a combination of live field training integrated with virtual (three-dimensional, stand-alone simulation for specific training tasks) and constructive (e.g., two-dimensional war-gaming) training for aspects that cannot be conducted live.

6.3.2 Evolving Concept of Operations

6.3.2.1 Doctrine

Changes to Service warfighting doctrine may change the required range capabilities. The range requirements process will be connected to doctrine and concept development to ensure that capabilities keep pace with warfighting tactics, techniques, and procedures. The vision for how the Navy will organize, integrate, and transform for the future is entitled “Sea Power 21.”
Three fundamental concepts lie at the heart of the Navy’s continued operational effectiveness under Sea Power 21: Sea Strike, Sea Shield, and Sea Basing. Sea Strike is the ability to project precise and persistent offensive power from the sea, Sea Shield extends defensive assurance throughout the world, and Sea Basing enhances operational independence and support for the joint force. These concepts build upon the solid foundation of the Navy-Marine Corps team, leverage U.S. asymmetric advantages, and strengthen joint combat effectiveness.

Sea Strike, Sea Shield, and Sea Basing will be enabled by ForceNet, an overarching effort to integrate warriors, sensors, networks, command and control, platforms, and weapons into a fully netted, combat force.

The Navy is developing Sea Strike, Sea Shield, and Sea Basing through a supporting triad of organizational processes: Sea Trial, Sea Warrior, and Sea Enterprise—initiatives that will align and accelerate the development of enhanced warfighting capabilities for the fleet.

Of these three processes, Sea Trial is the most important for range infrastructure and training in that it will aid in the development of enhanced warfighting capabilities for the fleet by more effectively integrating the thousands of talented and energetic experts, military and civilian, who serve throughout the Navy.

The transition of the Navy’s strategic focus from an open-ocean warfighting Navy built to counter a communist cold war threat to one focused on littoral warfare, third world threats, and counter-terrorist operations requires the development of entirely new ships, systems, and processes that can deliver enhanced capability, flexibility, and mobility. The NWTRC must evolve as the requirements to support these missions are better known.

6.3.2.2 Force Structure

The NWTRC must accommodate changing Navy force structure, particularly with respect to range capacity. In addition to individual units, this includes changes to the number and composition of Carrier Air Wings (CVWs) or Carrier Strike Groups (CSGs) which may train in the complex. Current projections show force structure remaining approximately constant for the Navy as a whole. However, new systems capabilities, force composition may require ranges to support increased operations, especially within intermediate and advanced level exercises. Such an example was the recent establishment of an expeditionary strike group which included strike capable surface ship combatants.
Recent base realignment and closure (BRAC) decisions are not expected to have a significant impact upon the number of training operations within the complex. However, careful attention to changes in force end strength is imperative to predict future operations within the complex.

6.3.2.3 Homebasing

The NWTRC must also accommodate changes to the number and location of operational forces based, both permanently and temporarily, in the Pacific Northwest. The arrival of the USS OHIO and the plan to homeport an additional SSGN submarine at Bangor brings the potential for increased NSW operations and training for the SSGN’s strike warfare mission.

Additional force homebasing issues and final BRAC implementation decisions are not expected to significantly reduce or increase the number of operational forces within the NWTRC. In turn, operations within the NWTRC should not be affected. However, homebasing decisions change and could increase the level of operations in particular warfare areas within the complex.

6.3.2.4 Training Strategy

Changes to or the evolution of Navy training strategies may result in new, modified, or deleted requirements. In particular, changes to the FRTP may significantly affect the type and number of operations because of the contribution of the NWTRC to FRTP training at the basic level. In addition, NCTE training procedures and policies could have a significant effect on the number of live training events within the NWTRC.

Strategic planning for the NWTRC must take into consideration each of these predictable factors. It also must be responsive to unpredictable developments so the complex evolves in a manner that fully supports its mission by providing a realistic training environment for operational training.
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7  RANGE COMPLEX CAPABILITIES ASSESSMENT

7.1  RANGE REQUIRED CAPABILITIES DOCUMENT

The Range Required Capabilities Document (RCD) describes the unconstrained required critical capabilities against which the Navy can develop investment strategies over the 10-year RCMP planning horizon.

Commander, U.S. Fleet Forces (USFF) will assess the existing capabilities of component elements of the Northwest Training Range Complex (NWTRC) against the required critical capabilities for the applicable range class (classes) described in the RCD. Shortfalls between existing and required capabilities and the resulting training impacts will form the basis for NWTRC investment strategies.

The Navy RCD describes the required capabilities for each of the three (3) levels of training complexity (Basic, Intermediate, and Advanced) for eight (8) range functions. The range functions are aligned with Navy Primary Mission Areas (PRMARs):

- Anti-Air Warfare (AAW);
- Amphibious Warfare (AMW);
- Anti-Surface Warfare (ASUW);
- Anti-Submarine Warfare (ASW);
- Mine Warfare (MIW);
- Strike Warfare (STW);
- Electronic Combat (EC); and
- Naval Special Warfare (NSW)/Explosive Ordnance Disposal (EOD).

In most cases, the range capabilities described in the RCD would allow a unit to achieve a C-1 rating, associated with full combat readiness. For some range attributes, a slightly reduced capability would allow for achievement of a C-2 rating. This reduced capability is the minimum requirement and is called the “threshold.” Where separate capability levels exist, the higher, desired requirement is the “objective.” For example, at the Basic level of ASW training, an opposition force (OPFOR) system should provide one live surface threat to meet the threshold (or C-2), or two live surface threats to meet the objective (or C-1).

In the future, the Navy RCD will contain a description of the required capabilities associated with Research Development Test and Evaluation (RDT&E) range functions within two separate annexes (Naval Air Systems Command (NAVAIR) and Naval Sea Systems Command (NAVSEA). These annexes had not been developed and approved for use as of the publication of this Range Complex Management Plan (RCMP). Accordingly, RDT&E range functions were not assessed in this RCMP.
7.2 Capabilities Assessment Process

During the range capabilities assessment process, each PRMAR assigned to the range complex in Chapter 6 is examined. Under each PRMAR, numerous requirements are examined. These range requirements are grouped into the following 10 range attributes, taken directly from the RCD:

- Airspace
- Sea Space
- Undersea Space
- Land area
- Scheduling System
- Communications System
- Weather Observing and Reporting (MET) System
- Target System
- Instrumentation System
- Opposition Force (OPFOR) System

Based on how well the range meets the requirements of the attribute, each attribute is determined to meet the capability fully, partially, or minimally.

As an example, requirements for AAW Basic level training (which is required at NWTRC) includes a given volume of airspace (area and height) in which supersonic flight operations are allowed. Airspace within the range complex exceeds that required, but since supersonic flight is not allowed, airspace requirements are only partially met.

The next step in the range capabilities assessment is to determine the operational impact of any attributes shown to have less than full capability. The impacts are categorized as minimal, moderate, or severe. In the example above, since there are no supersonic-capable aircraft based in the range complex, the impact of this shortfall is considered to be minimal.

For those shortfalls that cause greater than minimal impacts, further analysis is conducted to determine which Navy Tactical Tasks (NTAs) are affected and to consider possible recommendations and/or investments to remedy the shortfall.

The following terminology and associated color scheme will be used in discussing range capabilities and shortfalls and the associated training impact. The use of a percentage of RCD required capabilities available at the range provides an initial quantitative measure to assess the range capability. Range capability shortfalls are assessed for their impact on the ability to accomplish required training. The training impact assessment is qualitative in nature and is based on range manager and range user input.
Range Capability
- Full Capability (GREEN). Meets all (100 percent) RCD requirements for the range's assigned roles and missions (level of training) specified.
- Partial Capability (YELLOW). Meets most (50 percent to 99%) RCD requirements for the range's assigned roles and missions (level of training) specified.
- Minimal Capability (RED). Meets few, if any (less than 50 percent), RCD requirements for the range's assigned roles and missions (level of training) specified.

Training Impact
- Severe Impact (RED). A severe impact is one that prohibits a training event or activity or makes the training event or activity ineffectual when measured against training standards.
- Moderate Impact (YELLOW). A moderate impact marginalizes training to the extent that the training can be accomplished but must use alternative standards and methods that detract from otherwise optimum training.
- Minimal or No Impact (GREEN). A minimal impact does not effectively detract from training content, procedure, or outcome.

The final step in the assessment is to establish an action priority that can be used to guide the investment or environmental action(s) that should be taken to remove or reduce the severity of the impact. The action priority is based on the severity of the operational impact of the shortfall and the range priority of the affected PRMAR.

**Action priority:**

- **Priority 1:** Investment or environmental action recommendations that address current or potential severe operational impacts that can/should be addressed immediately and affect high (1) priority mission areas. This includes investments for the current Program Objectives Memorandum (POM) or those that are currently planned or programmed.

- **Priority 2:** Investment or environmental action recommendations that address: 1) current or potential severe operational impacts that can/should be addresses immediately and affect medium (2) priority mission areas; or 2) current or potential moderate operational impacts that affect high (1) and/or medium (2) priority mission areas. This includes investments for the current POM or those that are currently planned or programmed.

- **Priority 3:** Investment or environmental action recommendations that address current or potential operational impacts not requiring immediate action or investment in the current POM because:
Figure 7-1 summarizes the above explanation.

<table>
<thead>
<tr>
<th>Mission Priority (From Chapter 6)</th>
<th>Operational Impact (From Chapter 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe</td>
</tr>
<tr>
<td>High (1)</td>
<td>1</td>
</tr>
<tr>
<td>Medium (2)</td>
<td>2</td>
</tr>
<tr>
<td>Low (3)</td>
<td>3</td>
</tr>
</tbody>
</table>

Sample: If Mission Priority is 1 & Operational Impact is Moderate, Action Priority = 2.

7.3 RCD GAP ANALYSIS

Range complex capabilities, shortfalls, and impacts for the NWTRC are described in the following paragraphs. Figure 7-2 provides a short summary of the analysis for the NWTRC. For more detailed information, see Appendix D, RCD Gap Analysis Matrices.

The required capabilities for the NWTRC Operating Areas (OPAREAs), associated Warning Areas and Complex Special Use Airspace are focused on the range operations that directly support the single and multi-unit Fleet training in the unit, integration, and sustainment phases of the Fleet Readiness Training Plan (FRTP). Specific range required capabilities for Navy ranges are outlined in the Navy RCD.

7.3.1 Capabilities Common to All Range Functions

Training Level (Range’s Role & Mission Priority):
Basic (1); Intermediate (3)

The following two range attributes—Scheduling System and Meteorological System—share the same requirements across all PRMARS and will be assessed only once, in this section. Where shortfalls are determined, the impacts will be analyzed and discussed by each warfare area impacted.

7.3.1.1 Scheduling System

- **Requirement**: The scheduling system should allow range users access to a web-enabled database of descriptive information (including individual range resources) for the entire Navy range infrastructure and the ability to schedule required range periods
remotely at least two weeks in advance. The pre-event module should support unit-level queries on platform name and training event; it should also identify and notify of competing requests; it should support late cancellations flexibly and responsively. The real-time event module should allow range controllers to enter all event related data (prior, during, and after the event). The post-event module should generate automatic post-event messages/emails to users.

- **Current Capability:** Minimal.
- **Discussion:** Most areas of the NWTRC are currently scheduled by NAS Whidbey Island via naval message or phone call. The schedule is not web based and does not allow for real-time and post-event module requirements.

**Current Operational Impact of Capability Shortfall:** Moderate. The lack of capabilities of the scheduling system to meet RCD requirements has moderate impact on the accomplishment of training events within the complex. Current range limitations within the NWTRC require that units rely on the use of other ranges to attain C-2 readiness ratings. However, without a more capable scheduling system, including one that allows for intra range scheduling, NWTRC-based units have lower priority on other ranges and often have trouble scheduling their training needs. The current manual scheduling system also causes over-scheduling of airspace by aircrews in order to make up for the deficiencies of a weekday only “by-hand” process.

- **Recommendation:** Recommend investment in, and further development of, the NAVAIR developed NAVSKED software to meet RCD requirements.

### 7.3.1.2 Meteorological (MET) System

- **Requirement:** The MET system should be capable of collecting meteorological data; report meteorological information (Objective – report current sea state and sound velocity profile where applicable).
- **Current Capability:** Partial.
- **Discussion:** The MET system meets all the RCD requirements with the exception of reporting sea state and sound velocity profile information.
- **Current Operational Impact of Capability Shortfall:** Minimal. The lack of reporting sea state and sound velocity profiles affects only ASW events within the complex, and has little impact on the accomplishment of these events.

### 7.3.2 Capabilities in Support of Anti-Air Warfare (AAW)

**Training Level (Range’s Role & Mission Priority):**
Basic (2); Intermediate (3)

Anti-Air Warfare (AAW) is a number two range priority for NWTRC (see Chapter 6) at the basic level of training and a number
three range priority at the intermediate level. The NWTRC has no range requirements to conduct AAW at the advanced level.

**AAW Airspace**

- **Requirement (aircraft events):** All AAW training events require sufficient airspace to allow separation between friendly and Opposition Force (OPFOR) aircraft and to permit horizontal maneuvering and tactics execution. This airspace shall be cleared for supersonic flight. Specific requirements by training level are outlined below:
  - **Basic**
    - A 45-minute scheduled period.
    - A 50 nm x 80 nm area from surface to 60,000 feet Above Ground Level (AGL).
  - **Intermediate**
    - A 2-hour scheduled period.
    - A 50 nm x 80 nm area from surface to 60,000 feet AGL.
    - Allow supersonic operations.

- **Requirement (surface combatant events):** All AAW training events require sufficient airspace to allow separation between friendly and OPFOR elements and to permit horizontal maneuvering and tactics execution. Surface combatants should be able to conduct overland detection and tracking exercises, which require that some portion of SUA overlies a land mass with a littoral component. Specific requirements by training level are outlined below:
  - **Basic**
    - A 3-hour scheduled period.
    - A 75 nm x 75 nm area from surface to 60,000 feet AGL.
    - Some portion of the SUA should overlay a littoral land mass for detection and tracking.
  - **Intermediate**
    - A 5-hour scheduled period.
    - A 75 nm x 75 nm area from surface to 60,000 feet AGL.
    - Some portion of the SUA should overlay a littoral land mass for detection and tracking.

- **Current Capability:** Partial.

- **Discussion:** The airspace associated with the offshore areas of the NWTRC is not entirely cleared for supersonic operations nor is all of the airspace cleared from the surface to 60,000 feet AGL. The area of the offshore areas overlying the Olympic Coast National Marine Sanctuary also has a recommended minimum altitude for aircraft operations. Most of the overland airspace (including MOAs and ATCAAs) is available up to 50,000 feet or higher. The Olympic MOA is the most capable for conducting surface combatant overland detection and tracking, being located along the Pacific coast. It is limited in altitude (6,000 ft. to 17,999 ft.), but with the addition of the
Olympic ATCAA, meets all requirements. All dedicated airspace in the NWTRC is available 24/7.

- **Current Operational Impact of Capability Shortfall:**
  - **Minimal.** The limited amount of AAW conducted in the offshore areas and in the overland areas is not impacted significantly by these shortfalls. EA-6B aircraft are the primary participants in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are incapable of supersonic flight. EA-18G aircraft are supersonic capable and fly at higher altitudes. The altitude and supersonic limitations of the NWTRC may have a more significant impact when the EA-18G Growler replaces the EA-6B. However, there is an abundant amount of offshore SUA in which these operations may take place.

**AAW Sea Space**

- **Requirement:**
  - **Basic**
    - A 3 hour scheduled period.
    - A 75 nm x 75 nm area OPAREA.
    - Sea Space is required for surface combatant training.
    - Preferred directly beneath airspace.
  - **Intermediate**
    - A 5-hour scheduled period.
    - A 75 nm x 75 nm OPAREA.
    - Sea Space is required for surface combatant training.
    - Preferred directly beneath airspace.

- **Current Capability:** **Full.**
- **Discussion:** The Pacific Northwest OPAREA more than meets the requirement for sea space for the NWTRC.

**AAW Land Area**

- **Requirement (aircraft events):**
  - **Basic**
    - N/A
  - **Intermediate**
    - A 2 hour scheduled period.
    - A 20 nm x 20 nm land area.
    - Some land area with significant topographical features is desired to allow aircrews to prepare for opposed STW scenarios.

- **Requirement (surface combatant events):**
  - **Basic**
    - A 2-hour scheduled period.
    - A 20 nm x 20 nm land area with a littoral component.
Surface combatants should be able to conduct overland detection and tracking exercises. These exercises require the Land Area underlie Airspace authorized for use by manned and unmanned aircraft or drones.

Intermediate

- A 2-hour scheduled period.
- A 20 nm x 20 nm land area with a littoral component.

- Surface combatants should be able to conduct overland detection and tracking exercises. These exercises require that the land area underlies airspace authorized for use by manned and unmanned aircraft or drones.

- **Current Capability:** Minimal.

**Discussion:** The land beneath the Olympic MOA includes significant topographical features, contains a littoral component, and meets the size requirements. However, the Federal Aviation Administration (FAA) does not currently permit UAVs or drones in MOAs without a Certificate of Authorization (COA). At present, no COA is in place for UAV operations in the Olympic MOA. The 6 nm x 12 nm land area associated with the Naval Weapons System Training Facility (NWSTF) at Boardman, Oregon is Navy owned, but falls short of the size requirements. Boardman is also completely landlocked and is too far inland for surface ship training. This land area is available 24/7.

**AAW Communications System**

**Requirement:** The communications system shall be comprised of the following:

**Basic**

- Two dedicated EC&C circuits. One must support secure communication, including ship-to-shore.
- At least three dedicated Operational Communications (OC) circuits, one of which must support secure communication, including communications with airborne and surface combatant participants.

**Intermediate**

- Two dedicated EC&C circuits. One must support secure communications, including ship-to-shore.
- At least four dedicated OC circuits (objective, 3 OC circuits threshold), two of which must support secure A-G and ship-to-shore communications.
- There must be at least two data link circuits (objective, 1 D/L circuit threshold), at least one of which must support theater-level D/L connectivity and relay requirements.

**Current Capability:** Minimal.

**Discussion:** Except for FAA radio frequencies, there are no communications systems in the NWTRC which reach the offshore areas of the complex to support AAW.
Current Operational Impact of Capability Shortfall: Minimal. The limited amount of AAW conducted in the NWTRC is not impacted significantly by this communications shortfall.

AAW Target System

Requirement:

Basic
- Towed targets (e.g. banners and darts that support A-A and S-A gunnery training).
- Unmanned subsonic and supersonic drones that can operate from surface to 50,000 feet AGL.
- Drones should be capable of being augmented and controlled to replicate the size, spectral signature (including jamming), and in-flight performance of anticipated threat aircraft and anti-ship cruise missiles.

Intermediate
- Unmanned subsonic and supersonic drones that can operate from surface to 50,000 feet AGL.
- Drones should be capable of being augmented and controlled to replicate the size, spectral signature (including jamming), and in-flight performance of anticipated threat aircraft and anti-ship cruise missiles.

Current Capability: Minimal.

Discussion: There are no inherent drone capabilities residing within the complex.

Current Operational Impact of Capability Shortfall: Moderate. The lack of towed targets within the complex limits the ability of surface combatants to conduct Surface-to-Air training in target detection, tracking, and engagement. However, because locally based surface ships conduct this training outside of the NWTRC, this shortfall has only a moderate impact. This shortfall has no effect on the accomplishment of AAW training for EA-6B aircraft.

- NTAs Affected: 3.2.3
- Training Impact and Current Workaround: Surface Combatants conduct the bulk of their AAW training in out-of-area complexes, predominantly in the SOCAL complex.
- Impact on Current Shortfall of Introducing New Weapons Systems, Tactics, or Missions: Unknown impact to EA-18G once it is introduced into the complex. The EA-18G is equipped with a gun and an Air-to-air (A-A) missile capability, so it will need to train in A-A Gunnery and MISSILEX within the complex.

Recommendation: Recommend acquiring a S-A towed target capability (commercial air services).
AAW Instrumentation System

- **Requirement:** The instrumentation system should include all necessary components and elements associated with event tracking, Exercise Command & Control (EC&C), Modeling and Simulation (M&S), scoring, and debriefing. EC&C: All levels require the ability to conduct EC&C in 2-D and 3-D; Intermediate level requires JNTC capability. M&S: All levels require ability to conduct M&S for A-A, A-S, S-S, and S-A. Scoring: All levels require manual or auto scoring. Basic requires feedback in real-time. Intermediate level requires feedback in both real-time and post-mission. Real Time Kill Notification (RTKN) at the Basic level is voice; Intermediate is voice or auto. Debrief: Local and remote debrief capability at all levels. Specific time, speed, and position information (TSPI) requirements:

  - **Basic**
    - Tracking TSPI
      - High Fidelity: 10; reflects the requirements for at least 4 Blue and 5 OPFOR aircraft/drones.
      - Low Fidelity Tracks: 2; could be a single AEW aircraft and/or a single surface AAW-capable ship.
  - **Intermediate**
    - Tracking TSPI
      - High Fidelity Tracks: 24; includes up to 10 Blue, 12 OPFOR aircraft, and two drones replicating antiship missiles.
      - Low Fidelity Tracks: 10; Includes Blue air support aircraft and surface platforms.

- **Current Capability:** *Minimal.*

- **Discussion:**
  - **TSPI:** The range complex lacks TSPI coverage for the offshore operating areas. nor does it have any EC&C, M&S or scoring capability.
  - **EC&C in 2-D, 3-D and in the Joint National Training Capability (JNTC) context:** The Range Complex has no inherent radar tracking system (no 2-D or 3-D) for all overland and offshore areas.
  - **M&S not available for:** The complex lacks any M&S capability for AAW.
  - **Scoring:** No scoring system available for AAW events.
  - **Debrief:** The complex lacks any debrief capabilities for AAW events.

- **Current Operational Impact of Capability Shortfall:** *Moderate.* The lack of instrumentation within the complex limits the effectiveness of surface-to-air and air-to-air training. No real-time or debrief capability exists that could greatly enhance current and future training requirements.

- **NTAs Affected:** 3.2.3
- Training Impact and Current Workaround: Surface Combatants conduct the bulk of their AAW training in out-of-area complexes, predominantly in the SOCAL complex.

- Impact on Current Shortfall of Introducing New Weapons Systems, Tactics, or Missions: Unknown impact to EA-18G once it is introduced into the complex. The EA-18G is equipped with a gun and an Air-to-air (A-A) missile capability, so it will need to train in A-A Gunnery and MISSILEX within the complex.

- Recommendation: Recommend acquiring instrumentation systems that meet the RCD requirements.

AAW OPFOR System

- Requirement: The OPFOR system should include all necessary components and elements associated with presenting friendly event participants with an operating environment that replicates, to the greatest extent practical, the expected enemy order of battle in the area of planned operations. Specific requirements:
  
  Basic
  - Up to two rotary-wing aircraft with A-A missile capability.
  - Up to four live fixed-wing, supersonic aircraft with A-A gun and active A-A missile capability.
  - Fixed wing aircraft must be able to operate from surface to the upper limit of the airspace.
  - EC Threat Level 1.

  Intermediate (Basic capabilities plus the following):
  - Live or virtual aircraft equal to 1.5 times number of friendly aircraft, up to total of 16.
  - Number of live aircraft must be equal to or greater than number of friendly aircraft.
  - EC Threat Level 2.

- Current Capability: Minimal

- Discussion: The NWTRC does not have any dedicated rotary wing OPFOR aircraft; fixed wing through contract air services (CAS) only.

- Current Operational Impact of Capability Shortfall: Moderate. The lack of AAW OPFOR will cause a future impact to EA-18G training, which requires a greater OPFOR capability than currently exists in the NWTRC.

  - NTAs Affected: 3.2.3

- Training Impact and Current Workaround: Locally based aircraft have a less significant AAW mission, and have historically obtained OPFOR support from other local squadrons.

- Impact on Current Shortfall of Introducing New Weapons Systems, Tactics, or Missions: Expected moderate impact to EA-18G once it is introduced into the
complex. The EA-18G will have a greater AAW mission requirement than current locally based aircraft.

- **Recommendation:** Recommend acquiring commercial air services for OPFOR support.

### 7.3.3 Capabilities in support of Navy Anti-Surface Warfare (ASUW)

**Training Level (Range’s Role & Mission Priority):**

Basic (2); Intermediate (2)

Anti-Surface Warfare (ASUW) is a number two range priority for the NWTRC at the basic and intermediate levels of training. The NWTRC has no range requirements to conduct ASUW at the advanced level.

**ASUW Airspace**

- **Requirement:** The airspace to support ASUW training events must be sufficient to allow maneuvering of friendly air assets during the search, detection, targeting, and engagement phases of the exercise and the safe employment of air-, surface-, and subsurface-launched ASUW weapons. Specific requirements are:
  
  **Basic**
  
  - An 8-hour scheduled period.
  - A 30 nm x 75 nm area from surface to 35,000 feet AGL (supports two separate and concurrent S-S gunnery events).
  
  **Intermediate**
  
  - A 24-hour scheduled period.
  - A 100 nm x 100 nm area from surface to 60,000 feet AGL (supports the requirements associated with an OTH targeting exercise).

- **Current Capability:** Full

- **Discussion:** The at-sea warning areas associated with the Pacific Northwest OPAREA meets the full requirements of the RCD for airspace.

**ASUW Sea Space**

- **Requirement:** Available sea space must be sufficient to allow maneuvering of friendly and hostile surface assets during the search, detection, targeting, and engagement phases of the exercise and the safe employment of air-, surface-, and subsurface-launched ASUW weapons. Specific requirements are:
  
  **Basic**
  
  - An 8-hour scheduled period.
  - A 50 nm x 75 nm area.
  
  **Intermediate**
  
  - A 24-hour scheduled period.
A 75 nm x 75 nm area.

- **Current Capability:** Full.
- **Discussion:** The Pacific Northwest OPAREA more than meets the requirements of the RCD for sea space.

### ASUW Undersea Space

- **Requirement:** Available undersea space must be sufficient to allow maneuvering of friendly subsurface units during the search, detection, tracking, and engagement phases of the exercise, including the safe employment of submarine-launched anti-ship weapons. An underwater training range (UTR) is preferred, but not required, for all ASUW events involving submarines. Specific requirements are:
  - **Basic**
    - An 8-hour scheduled period.
    - A 50 nm x 75 nm OPAREA, with sufficient depth to allow the use of submarine-launched anti-ship weapons.
  - **Intermediate**
    - A 24-hour scheduled period.
    - A 50 nm x 150 nm OPAREA with sufficient depth to allow the use of submarine-launched anti-ship weapons.
- **Current Capability:** Full.
- **Discussion:** The undersea space of the Pacific Northwest OPAREA exceeds the size and temporal requirements of the RCD for undersea space. Nanoose Range is a UTR, but is not contiguous to the Pacific Northwest OPAREA.

### ASUW Communications System

- **Requirement:** The communications system shall be comprised of the following:
  - **Basic**
    - Two dedicated EC&C circuits, at least one of which must support secure communication, including ship-to-shore.
    - At least three dedicated OC circuits, at least one of which must support secure communications. OC circuits must support communications with airborne, surface combatant, and submarine participants.
  - **Intermediate**
    - Two dedicated EC&C circuits, at least one of which must support secure communication, including ship-to-shore.
    - At least four dedicated OC circuits (objective, two OC circuits threshold), at least two of which must support secure A-G and ship-to-shore communications. The OC circuits must support communications with airborne, surface combatant, and submarine participants.
    - Two data link circuits (objective, one D/L circuit threshold).
- **Current Capability:** Minimal.
• **Discussion:** There are no communications systems in the NWTRC which serve the offshore areas of the complex to support ASUW.

• **Current Operational Impact of Capability Shortfall:** Minimal. The limited amount of ASUW conducted in the NWTRC is not impacted significantly by this communications shortfall.

**ASUW Target System**

• **Requirement:** The target system should include all necessary components and elements associated with presenting and controlling fixed and mobile surface targets.

  **Basic**
  
  o At least one stationary and one towed or self-propelled target.
  
  o Target, which can be remotely controlled or programmable must be capable of replicating threat platform spectral signatures.
  
  o Target must be cleared for engagement with live anti-ship ordnance.

  **Intermediate**
  
  o Same requirements as Basic.

• **Current Capability:** Partial.

• **Discussion:** The NWTRC does not have any inherent ASUW targets in the complex. Surface ships have the ability to launch a floating at-sea target which meets the stationary requirement but these do not replicate the spectral signature of threat platforms. The NWTRC also lacks towed or self-propelled targets.

• **Current Operational Impact of Capability Shortfall:** Moderate. The lack of targets prevents some basic and intermediate training events from occurring in the complex. Surface ships conduct basic and intermediate ASUW against the floating at sea targets, while aircraft and submarines conducting ASUW do so against targets of opportunity without conducting live fire training.

  ▪ **NTAs Affected:** 3.2.1.1
  ▪ **Training Impact and Current Workaround:** Ships and aircraft conduct this training at other ranges, typically in the SOCAL range complex.
  ▪ **Impact on Current Shortfall of Introducing New Weapons Systems, Tactics, or Missions:** None.

• **Recommendation:** Acquire towed and self-propelled targets, either programmable or remote controlled.

**ASUW Instrumentation System**

• **Requirement:** The instrumentation system should include all necessary components and elements associated with event tracking, EC&C, M&S, scoring, and debriefing. EC&C: Both
levels require the ability to conduct EC&C in 2-D and 3-D;
M&S: Both levels require ability to conduct M&S for A-A
(except Basic), A-S, A-G, S-S, S-A (except Basic), and Sub-S.
Scoring: Both levels require manual or auto scoring. Both levels
require feedback in both real-time and post-mission. RTKN at
the both levels is voice. Debrief: Local and remote debrief
capability at both levels. Specific TSPI requirements:

Basic
  o Tracking TSPI
    • High Fidelity Tracks: 4; assumes up to 2 Blue and 2
      OPFOR air assets.
    • Low Fidelity Tracks: 5; Includes up to 2 Blue and 1
      OPFOR surface tracks and 2 submarines.

Intermediate
  o Tracking TSPI
    • High Fidelity Tracks: 12; Includes 8 Blue and 4
      OPFOR aircraft.
    • Low Fidelity Tracks: 14; Includes up to a combined
      total of 12 Blue and OPFOR surface platforms and 2
      submarines.

• Current Capability: **Minimal**
• Discussion:
  o TSPI: The range complex lacks the ability for TSPI in the
    offshore areas.
  o EC&C in 2-D, 3-D and in the Joint National Training
    Capability (JNTC) context. The Range complex has no
    inherent radar tracking system to cover all overland and
    offshore areas. There is no instrumentation in the OPAREAs
    other than the inactive systems of the Quinault Range which
    would not support ASUW operations in the complex.
  o M&S not available for: The complex lacks any M&S to
    support ASUW operations.
  o Scoring: The complex lacks any scoring for ASUW events.
  o Debrief: The complex lacks a debrief capability for ASUW
    events.

• Current Operational Impact of Capability Shortfall:
  **Minimal**: The lack of instrumentation has very little impact on
  the limited ASUW operations that occur in the NWTRC.

ASUW OPFOR System
• Requirement: The ASUW OPFOR assets will be used to
  support/augment the ASUW target(s).
  Basic
  o At least one live surface combatant and one live fixed or
    rotary-wing aircraft.
  o EC Threat Level 1.
Intermediate
  o At least two live, virtual, or constructive surface combatants
    and at least two live, virtual, or constructive fixed- or rotary-
    wing aircraft.
  o At least one half of the OPFOR must be live.
  o EC Threat Level 2.
  • **Current Capability:** Minimal.
  • **Discussion:** The NWTRC does not contain any live dedicated
    OPFOR surface combatants; fixed wing aircraft through CAS
    only.
  • **Current Operational Impact of Capability Shortfall:** Minimal. The OPFOR for ASUW events in the NWTRC is
    usually provided by other Fleet or foreign (Canadian Forces)
    assets or through CAS for OPFOR aircraft.

7.3.4 Capabilities in support of Navy Anti-Submarine Warfare (ASW)

**Training Level (Range’s Role & Mission Priority):**
Basic (1); Intermediate (2)

ASW is currently supported as a number one priority at the basic
level of training and a number two priority at the intermediate level
of training. The NWTRC has no priority at the advanced level of
training in ASW.

**ASW Airspace**

- **Requirement:**
  - **Basic**
    o A 6-hour time window.
    o A 50 nm² area.
    o From surface to 10,000 ft AGL.
    o Should overlie a UTR.
  - **Intermediate**
    o A 12-hour time window.
    o A 500 nm² area.
    o From surface to 10,000 ft AGL.
    o Preferred, but not required, that some portion overlie a UTR.
  - **Current Capability:** Full.
  • **Discussion:** The at-sea warning areas associated with the
    Pacific Northwest OPAREA meets the requirements of the RCD
    except that there is no UTR beneath the airspace. A UTR exists
    at Nanoose Range and is capable of supporting basic level
    training.

**ASW Sea Space**

- **Requirement:** The sea space to support ASW training must be
  sufficient to allow maneuvering of friendly and hostile surface
assets during the search, detection, localization, and attack phases of the exercise and the safe employment of surface-launched ASW weapons. A UTR is preferred but not required.

**Basic**
- A 6-hour scheduled period.
- A 50 nm² ocean OPAREA.
- A UTR is preferred but not required.
- The area must be cleared for expenditure of sonobuoys and/or EXTORPs.

**Intermediate**
- A 12-hour scheduled period.
- A 500 nm² ocean OPAREA.
- A UTR is preferred but not required.
- The area must be cleared for expenditure of sonobuoys and/or EXTORPs.

- **Current Capability:** Full.
- **Discussion:** The Pacific Northwest OPAREA more than meets the requirements of the RCD for sea space although it does not have a fully functional UTR (a desired but not required capability). A UTR exists at Nanoose Range and is capable of supporting basic level training.

**ASW Undersea Space**

- **Requirement:** The undersea space should be an area capable of supporting tactical maneuvering of two submarines as well as ASW weapon firings, all while being tracked on an UTR. The UTR must include water depths less than 600 feet and should preferably include water as shallow as 300 feet to replicate littoral operating environments.

**Basic**
- A 6-hour scheduled period.
- A 50 nm² range.

**Intermediate**
- A 12-hour scheduled period.
- A 500 nm² range.
- Depths shallower than 600 feet.
- A UTR is preferred but not required.
- Preferably, the UTR should encompass water as shallow as 300 feet to replicate littoral operating environments.
- The area must be cleared for LFA high dB active sensors and expenditure of at least EXTORP and EER.

- **Current Capability:** Partial.
- **Discussion:** The undersea space associated with the Pacific Northwest OPAREA meets all the requirements of the RCD except the requirement for a UTR. The instrumentation associated with the Quinault Range is portable in nature and requires placement in the area in which the exercises will be
conducted. A UTR exists at Nanoose Range and is capable of supporting basic level training.

- **Current Operational Impact of Capability Shortfall:** *Minimal*. The lack of a UTR has little impact on the submarines, surface ships, and aircraft which conduct ASW events in the complex, including operations at Nanoose. Training is also conducted in the Southern California (SOCAL) OPAREAs on the Southern California Offshore Anti-Submarine Warfare Range (SOAR).

### ASW Communications System

- **Requirement:** The communications system shall be comprised of the following:
  - **Basic**
    - Two dedicated EC&C circuits. EC&C circuits must support secure communications, including ship-to-shore.
    - At least three dedicated OC circuits (objective, two OC circuits threshold), at least one of which must support secure communications. OC circuit must support voice communications with airborne, surface, and submarine participants.
    - One acoustic data transfer network to facilitate transmission of real or near-real time TSPI and weapons performance information to submarine participants not connected to RF data link (objective, no requirement for acoustic data transfer network at threshold level).
  - **Intermediate**
    - Two dedicated EC&C circuits. EC&C circuits must support secure communications, including ship-to-shore.
    - At least four dedicated OC circuits, at least one of which must support secure communications. OC circuit must support voice communications with airborne, surface, and submarine participants.
    - One acoustic data transfer network to facilitate transmission of real or near-real time TSPI and weapons performance information to submarine participants not connected to RF data link (objective, no requirement for acoustic data transfer network at threshold level).

- **Current Capability:** *Minimal*.
- **Discussion:** There is no communications system in the NWTRC that serves the offshore areas of the complex in support of ASW operations.
- **Current Operational Impact of Capability Shortfall:** *Minimal*. The lack of ASW communications coverage for the OPAREAs has little effect on basic and intermediate level events which occur within the NWTRC.
ASW Target System

- **Requirement:** The target system should include all necessary components and elements associated with presenting and controlling fixed and mobile underwater maneuvering targets. ASW training requires one to two live, virtual, or constructive targets capable of generating or replicating the magnetic signature and the acoustic signals of current and anticipated threats in both narrow and broad bands. Live targets must be full-scale manned submarines or augmented autonomous targets that are capable of various speed, course, and depth profiles.

  **Basic**
  - One live recoverable or expendable target.

  **Intermediate**
  - At least two live, virtual, or constructive targets, at least one of which must be live (objective, only one live, virtual, or constructive target required for threshold).

- **Current Capability:** Full.

- **Discussion:** Mk-39 Expendable Mobile ASW Training Targets (EMATTs), MK 30 targets and live submarines are readily available to support this requirement. All have the capability to reproduce the acoustic signature of current and anticipated threat submarines.

ASW Instrumentation System

- **Requirement:** The instrumentation system should include all necessary components and elements associated with event Tracking, EC&C, M&S, scoring, and debriefing. EC&C: Both levels require the ability to conduct EC&C in 2-D and 3-D; M&S: Both levels require ability to conduct M&S for A-S, A-G, S-Sub, Sub-S, and Sub-Sub. Scoring: Both levels require auto scoring. Both levels require feedback in both real-time and post-mission. Real Time Kill Notification (RTKN) at the Basic level is voice, Intermediate is voice or auto. Debrief: Local and remote debrief capability at all levels. Specific TSPI requirements:

  **Basic**
  - Tracking TSPI
    - High Fidelity Tracks: 11; includes the potential to track up to 2 fixed or rotary wing aircraft, 4 subsurface tracks (1 Blue submarine + tail and 1 OPFOR submarine + tail), and 1 instrumented exercise torpedo.
    - Low Fidelity Tracks: 2; Includes up to 2 surface tracks.

  **Intermediate**
  - Tracking TSPI
    - High Fidelity Tracks: 34; includes up to 6 aircraft (4 Blue and 2 OPFOR), 6 subsurface tracks (2 Blue
submarines + 2 tails and 2 OPFOR submarines), 20 surface tracks (8 Blue surface combatants + 8 tails and 2 OPFOR surface combatants + 2 tails) and 2 EXTORPS. Applies only to operations on a UTR.

- Low Fidelity Tracks: 5; Includes at least 4 surface tracks and 1 UUV. Applies only to operations on a UTR.

- **Current Capability:** Minimal

- **Discussion:**
  - **TSPI:** The range complex lacks any TSPI in the offshore operating areas other than the inactive Quinalt Range, which only covers a portion of the OPAREA. With the exception of the instrumentation capabilities associated with the Dabob, and Nanoose RDT&E ranges, there is no other TSPI available.
  - **EC&C in 2-D, 3-D and in the Joint National Training Capability (JNTC) context:** The complex has no inherent radar tracking system for full overland and offshore area coverage.
  - **M&S not available for:** There is no M&S available for the offshore areas in support of ASW.
  - **Scoring:** No scoring system exists to support ASW in the offshore areas.
  - **Debrief:** The complex lacks a debrief capability for ASW events offshore.

- **Current Operational Impact of Capability Shortfall:** Minimal. The lack of instrumentation has little impact on the submarines, surface ships, and aircraft which conduct ASW events in the complex.

**ASW OPFOR System**

- **Requirement:** The OPFOR System should include all necessary components and elements associated with presenting friendly event participants with an operating environment that replicates, to the greatest extent practical, the expected enemy order of battle in the area of planned operations. OPFOR for training events in ASW should include threat ASW aircraft, surface ships, and submarines. The OPFOR system should also be capable of EC Threat Levels 1 or 2 for both surface and air OPFOR.

  **Basic**
  - One live threat submarine.
  - One (threshold) or two (objective) live surface threats.
  - One live threat aircraft.
  - EC Threat Level 1.
Intermediate

- At least four live or virtual threat submarines, at least two of which must be live (objective, only one live submarine threshold).
- Up to four live or virtual surface threats, at least two of which must be live (objective, only two live or virtual surface combatant threats required, one of which must be live, threshold).
- At least three live or virtual ASW threat aircraft, at least two of which must be live (objective, only two live or virtual threat aircraft required, one of which must be live, threshold).
- EC Threat Level 2.

**Current Capability:** **Minimal**

**Discussion:** The NWTRC does not contain any live dedicated OPFOR surface combatants or submarines; a diesel OPFOR submarine is available in San Diego for deployment to the complex for OPFOR role; fixed wing aircraft available through CAS only.

**Current Operational Impact of Capability Shortfall:** **Minimal**. The OPFOR for ASW events in the NWTRC is usually provided by other Fleet or foreign (Canadian Forces) assets or through CAS for OPFOR aircraft.

7.3.5 Capabilities in support of Navy Mine Warfare

**Training Level (Range’s Role & Mission Priority):**
Basic (1); Intermediate (2)

Mine Warfare (MIW) in the NWTRC is a number one range priority at the basic level of training and a number 2 at the intermediate level of training. While the NWTRC is not required to support MIW at the advanced level, Mine Countermeasures (MCM) has been supported several times in the past using MH-53 helicopters pulling MCM sleds in Crescent Harbor. When stationed in San Francisco, the HMM units would send detachments to NAS Whidbey Island bringing their own mine shapes with them. MCM could also be potentially supported in the Admiralty Bay Mining Range, and perhaps Nanoose should the need arise.

**MIW Airspace**

**Requirement:**

**Basic**

- A 6-hour time window.
- A 50 nm² area.
- From surface to 5,000 feet AGL.

**Intermediate**

- A 12-hour time window.
o A 100 nm² area.
  o From surface to 5,000 feet AGL.

- **Current Capability:** Full.

- **Discussion:** The Admiralty Bay restricted area (R-6701) of the NWTRC which supports aerial mining, does not meet the RCD requirement for area. R-6701 has 21 nm² of area vice the 50 nm² and 100 nm² requirements. Other airspace over water in the complex meets the RCD requirement. However, should the requirement emerge, the Admiralty Bay Mining Range should be considered for development of a mine target system.

### MIW Sea Space

- **Requirement:** The sea space required to support MIW training events should allow for offensive mine laying operations and defensive MCM. The mine laying range should be adjacent to or in close proximity to one or more prominent land formations that can be used by aircrews for geo-reference point for mine-laying operations.
  
  **Basic**
  
  o A 6-hour time window.
  
  o A 50 nm² OPAREA.

  **Intermediate**
  
  o A 12-hour time window.
  
  o A 100 nm² OPAREA.

- **Current Capability:** Partial.

- **Discussion:** The Admiralty Bay area of the NWTRC which supports aerial mining, does not meet the RCD requirement for area (21 nm² of area vice the 50 nm² and 100 nm² requirements). Open ocean sea space in the complex meets the RCD requirement but will not allow for scored mining. MCM training is conducted in various smaller areas throughout Puget Sound, to include Navy 3 and Crescent Harbor. In addition, MIW operations have been conducted at the Canadian Forces Maritime Experimental and Test Ranges (CFMETR) at Nanoose, Canada.

### Current Operational Impact of Capability Shortfall:

- **Minimal.** The complex currently supports only aerial mining and mine neutralization operations and the sea space capabilities inherent in the range are more than adequate to meet training requirements.

### MIW Undersea Space

- **Requirement:** MCM training operations are conducted primarily against bottom mines and moored mines. MCM training requires both shallow water (up to 600 feet) and deep water (up to 1,200 feet) range areas. Areas must allow mine laying.
Basic
- A 6-hour time window.
- A 50 nm² area.
- Surf zone to 600 feet deep.
- A UTR is desired but not required.
- Allow live firing of existing and projected MCM systems, EOD ordnance, and mechanical cutters.

Intermediate
- A 12-hour time window.
- A 100 nm² area.
- Surf zone to 1,200 feet deep.
- A UTR is desired but not required.
- Dedicated 1 nm x 2 nm area for Shock Wave Action Generator (SWAG) operations and mine avoidance training.

**Current Capability:** Partial.

**Discussion:** The Admiralty Bay area of the NWTRC which supports aerial mining, does not meet the RCD requirement for area (21 nm² of area vice the 50 nm² and 100 nm² requirements). Open ocean sea space in the complex meets the RCD requirement but will not allow for scored mining. MCM training is conducted in various smaller areas throughout Puget Sound.

**Current Operational Impact of Capability Shortfall:** Minimal. The complex currently supports only aerial mining and mine neutralization operations. The undersea space capabilities inherent in the range are more than adequate to meet training requirements.

**MIW Communications System**

**Requirement:** The communications system shall be comprised of the following:

**Basic**
- Two dedicated EC&C circuits. One must support secure communication, including ship-to-shore.
- At least three dedicated OC circuits (objective, only two OC circuits required for threshold), at least one of which must support secure communication. OC communications must support communications with airborne, surface, submarine, and NSW participants.

**Intermediate**
- Two dedicated EC&C circuits. One must support secure communication, including ship-to-shore.
- At least three dedicated OC circuits (objective, only two OC circuits required for threshold), at least one of which must support secure communication. OC communications must support communications with airborne, surface, submarine, and NSW participants.
o At least one data link circuit.

- **Current Capability:** Partial.

- **Discussion:** NAS Whidbey Island has communications systems which allow NAS Whidbey Operations personnel to communicate constantly with airborne aircraft operating in the vicinity of Admiralty Bay for aerial mining operations. The complex lacks the number (five in total) of circuits required for MIW operations.

- **Current Operational Impact of Capability Shortfall:** Minimal. Due to the limited nature of aerial mining, the lack of communications has little effect on operations within the complex.

### MIW Target System

- **Requirement:** The range should include a mixture of instrumented and non-instrumented targets. Targets should include threat representative mines and realistic false targets to support threat discrimination training. Instrumented targets should provide near real-time feedback on mission performance, mine identification, boat vulnerability, and signature characteristics. The range should support the use of MCM weapons packages, EOD ordnance, and mechanical cutters.

  **Basic**
  
  o A minimum of 30 non-instrumented (objective, 15 threshold) and 20 instrumented (objective, 10 threshold) target shapes to include a combination of bottom mines, moored mines, and false targets.

  o Must include non-mine shapes that require MCM operators to classify shapes as mines or non-mines.

  o Must include mine shapes on a dedicated mine avoidance range.

  o Must include targets for SWAG operations.

  **Intermediate**

  o A minimum of 30 non-instrumented (objective, 15 threshold) and 20 instrumented (objective 10 threshold) target shapes to include a combination of bottom mines, moored mines, and false targets.

  o Must include non-mine shapes that require MCM operators to classify shapes as mines or non-mines.

  o Must include mine shapes on a dedicated mine avoidance range.

  o Must include targets for SWAG operations.

  o Mine shapes and false targets must be mobile and relocatable.

- **Current Capability:** Minimal.

- **Discussion:** The NWTRC has very few mine target shapes and it does not have a mine avoidance range. Mine Target shapes are
used in mine neutralization operations. The NWTRC lacks the
instrumented mine shapes required to support MCM operations
by Aviation or Surface Based platforms, which is not an area
required for the complex to support.

- **Current Operational Impact of Capability Shortfall:**
  Minimal. The complex currently supports only aerial mining
  and mine neutralization operations and the targets inherent in the
  range are more than adequate to meet training requirements.

**MIW Instrumentation System**

- **Requirement:** The instrumentation system should include all
  necessary components and elements associated with event
  tracking, EC&C, M&S, scoring, and debriefing. EC&C: Both
  levels require the ability to conduct EC&C in 2-D and 3-D;
  M&S: Both levels require ability to conduct M&S for A-G, S-
  Sub, and Sub-Sub. Scoring: Basic level requires manual or auto
  scoring; Intermediate level requires auto scoring. Both levels
  require feedback in both real-time and post-mission. RTKN at
  the both levels is voice or auto. Debrief: Local and remote
debrief capability at both levels. Specific TSPI requirements:

  **Basic**
  - Tracking TSPI
    - High Fidelity Tracks: 10; represents the fixed- or
      rotary-wing aircraft requirement.
    - Low Fidelity Tracks: 22; Represents 20 instrumented mines and up to two surface/subsurface
      participants.

  **Intermediate**
  - Tracking TSPI
    - High Fidelity Tracks: 20; represents the typical
      requirements associated with an aviation mine
      readiness certification inspection (MRCI); requirements for MCM could be as low as 10.
    - Low Fidelity Tracks: 30; will accommodate a typical
      MIW scenario of one or more submarines, two or
      more surface ships, up to two UUVs, and up to 20
      instrumented mines.

- **Current Capability:** Partial.

- **Discussion:**
  - **TSPI:** The NWTRC lacks the instrumented mine shapes or
    TSPI instrumentation required to support MCM operations
    by Aviation or Surface Based platforms, which is not an area
    required for the complex to support.
  - **EC&C in 2-D, 3-D and in the Joint National Training
    Capability (JNTC) context:** The range complex has no
    inherent radar tracking system for the offshore areas.
  - **M&S not available for:** The complex lacks any M&S
    capabilities to support MIW operations.
Scoring: Scoring for aerial mining is limited to visual sighting by operating personnel.
Debrief: The complex lacks the capability for debrief of aerial mining events.

- **Current Operational Impact of Capability Shortfall:** *Minimal*.
  The complex currently supports only aerial mining and mine neutralization operations at the basic and intermediate levels; however, the lack of capabilities in the instrumentation system has little effect on the accomplishment of these operations.

**MIW OPFOR System**

- **Requirement:** The OPFOR System should include all necessary components and elements associated with presenting friendly event participants with an operating environment that replicates, to the greatest extent practical, the expected enemy order of battle in the area of planned operations.

  **Basic**
  - N/A

  **Intermediate**
  - At least 2 Live fixed- or rotary-wing threat aircraft (objective, only 1 live aircraft required for threshold).
  - At least 1 Live submarine threat (objective, no submarine required for threshold).
  - EC Threat Level 2.

- **Current Capability:** *Minimal*

- **Discussion:** The NWTRC does not contain any live dedicated OPFOR submarines; a diesel OPFOR submarine is available in San Diego for deployment to the complex for OPFOR role; fixed wing aircraft available through CAS only.

- **Current Operational Impact of Capability Shortfall:** *Minimal*.
  Opposed MIW events are not a requirement of the complex.

### 7.3.6 Capabilities in support of Navy Strike Warfare

**Training Level (Range’s Role & Mission Priority):**
- Basic (2); Intermediate (3)

Strike Warfare (STW) in the NWTRC is a number two range priority at the basic level of training and a number 3 range priority at the intermediate level of training.

**STW Airspace**

- **Requirement:** The airspace required for STW training events and exercises must support: A-G gunnery, free-fall weapons, and
guided A-G munitions; naval gunnery (NSFS); stand-off A-G tactics; land attack cruise missiles; and laser designating devices.

**Basic**
- A 1-hour time window.
- A 20 nm x 100 nm area from surface to 23,000 feet AGL that would allow multiple separate and concurrent aviation range events using “closed” racetrack ordnance delivery patterns at geographically separated targets or target complexes (objective, 20nm x 50 nm threshold).

**Intermediate**
- A 4-hour time window.
- A 50 nm x 100 nm area from surface to 50,000 feet AGL that would provide sufficient airspace to allow the use of stand-off A-G tactics, NSFS, and land attack cruise missiles, and would allow two separate and concurrent large-scale tactical strikes against geographically-separated targets complexes.
- Area should be cleared for supersonic operations and the use of A-G gunnery, free-fall and guided A-G munitions, naval gunnery, and sea-launched cruise missiles.
- Must allow the use of laser designating devices and the expenditure of chaff and flares.

- **Current Capability:** Partial.
- **Discussion:** Ranges do not meet RCD requirements for area or altitude at basic or intermediate levels. Boardman is the only A-G target in the NWTRC. Its airspace is approximately 30 nm x 20 nm and has a ceiling of 20,000 feet. The range lacks multiple geographically separated targets. Supersonic operations are not allowed.

- **Current Operational Impact of Capability Shortfall:** Moderate. Due to the limited nature of strike warfare, the lack of sufficient range dimensions and quantity of ranges has little effect on current operations within the complex. However, the EA-18G will be based at Whidbey Island, and when the aircraft gains an A-G capability (expected in later models), aircrews will require a fully capable backyard STW range.

**STW Sea Space**
- **Requirement:** Sea space is not required for Basic aviation STW training, although it is required for Basic surface and subsurface STW training. The available sea space should accommodate typical training scenarios associated with employment of sea-launched cruise missiles and NSFS. Specific requirements are:
  - **Basic**
    - A 1-hour time window.
    - A 75 nm x 75 nm OPAREA.
Accommodate two simultaneous and concurrent surface and/or subsurface events.

**Intermediate**
- A 4-hour time window.
- A 75 nm x 75 nm OPAREA.
- Accommodate two simultaneous and concurrent surface and/or subsurface events.

- **Current Capability:** Full
- **Discussion:** The Pacific Northwest OPAREA more than meets the requirements of the RCD for sea space.

### STW Undersea Space

**Requirement:** The undersea space should be an area of similar size (75 nm x 75 nm) and capabilities of the sea space area, with an added dimension of depth to 300 feet. Specific requirements are:

**Basic**
- A 1-hour time window.
- A 75 nm x 75 nm range.
- Surface to 300 feet.

**Intermediate**
- A 4-hour time window.
- A 75 nm x 75 nm range.
- Surface to 300 feet.

- **Current Capability:** Full
- **Discussion:** The Pacific Northwest OPAREA more than meets the requirements of the RCD for sea space.

### STW Land Area

**Requirement:** Land area is required for all levels of STW training. It should be of sufficient size or area to allow the installation of at least two scored targets. The land should be cleared for use of live or inert A-G gunnery, and live or inert precision or non-precision A-G munitions, and land attack cruise missile munitions. Specific requirements are:

**Basic**
- A 1-hour time window.
- One 20 nm x 20 nm range (objective, 10 nm x 10 nm threshold).
- Inert munitions up to 2,000 pounds.
- Live munitions up to 1,000 pounds.
- Supports two separate, simultaneous, and concurrent events (objective, not required for threshold).
- Cleared for use of laser targeting and designating devices.
Intermediate

- A 4-hour time window on two geographically-separated 20 nm x 20 nm ranges.
- Live and inert precision and non-precision A-G munitions up to 2,000 pounds.
- Land-attack cruise missiles munitions up to 2,000 pounds.
- Allows simultaneous engagement of disparate targets by separate strikes.

- **Current Capability:** Partial.
- **Discussion:** The only A-G range in the complex is NWSTF Boardman. Boardman is a 48,000 acre range, with approximate dimensions of 6 nm x 12 nm. Although its size falls short of the RCD requirement, simultaneous events have taken place at Boardman in the past. The range is cleared for inert ordnance only. The range can support laser targeting systems.

- **Current Operational Impact of Capability Shortfall:** Moderate.
  - **NTAs affected:** 3.2.6 (Interdict Enemy Operational Forces/Targets).
  - **R2R Training Impact and Current Workaround:** Prohibits certain training events, reduces realism, limits application of new technologies, inhibits new tactics development, reduces live fire proficiency, increases personnel tempo, and increases O&M costs. Whidbey Island units with an A-G capability must rely on out-of-area training to fulfill unit level requirements.
  - **Impact of Current Shortfall on Introducing New Weapon Systems, Tactics, or Missions:** The EA-18G is expected to have an A-G capability in future models. Lack of a suitable backyard training range for STW training will result in the above mentioned impacts.

- **Recommendation:** Redesign target areas at NWSTF Boardman to accommodate geographically separated targets or target complexes that would allow multiple separate and concurrent aviation range events using “closed” racetrack ordnance delivery patterns.

**STW Communications System**

- **Requirement:** The communications system shall be comprised of the following:
  - **Basic**
    - Two dedicated EC&C circuits, one of which must support secure communication, including ship-to-shore.
    - At least three dedicated OC circuits (objective, only 2 for threshold), one of which must support secure communication, including communications with airborne, surface, submarine, and NSW participants.
Intermediate

- Two dedicated EC&C circuits, one of which must support secure communication, including ship-to-shore.
- At least four dedicated OC circuits, at least two of which must support secure communication, including communications with airborne, surface, submarine, and NSW participants.
- At least two D/L circuits.

**Current Capability:** Partial.

**Discussion:** Range communications at Boardman consists of 1 UHF and 1 VHF radio for aircraft communication and 1 FM radio for ground communications on the range. There are no secure communications at NWSTF Boardman.

**Current Operational Impact of Capability Shortfall:** Minimal. Impact could become Moderate when the EA-18G begins A-G training from Whidbey Island.

**Recommendation:** Jointly use ORNG communications capabilities and ensure those capabilities are compatible with future requirements. Additionally, increase the communications capability at Boardman in conjunction with the planning for EA-18G strike operations.

**STW Target System**

**Requirement:** The target system should include all necessary components and elements associated with presenting and controlling structural, revetted, and moving targets. STW training requires a minimum of two geographically separate targets. The target systems must allow the use of live and inert weapons. Specific requirements are:

**Basic**
- At least two separate live/inert weapons target sites (objective, only one site for threshold).
- A minimum of 4 Desired Mean Points of Impact (DMPIs) at each site (not including raked and strafe ranges).
- Includes raked and strafe ranges.
- Inert weapons up to 2000 pounds.
- Live weapons up to 1000 pounds.
- Some of the targets should allow the use of laser designators.

**Intermediate**
- At least four separate live/inert weapons target sites (targets sites may be L or V, but at least 2 of the targets must be L).
- At least one target site must allow the use of live and inert weapons up to 2,000 pounds.
- Target sites should be distributed throughout the range/range complex, with a minimum of 4 DMPIs at each site.
o All targets should possess both visual and infrared signatures (building structure, revetted, and moving targets must replicate to the greatest degree practical the physical characteristics and spectral signatures of the type of targets expected to be encountered in the project are of operations).

o At least some of the structural targets should replicate congested urban terrain, requiring discrimination between valid and invalid targets.

o Some of the targets should allow the use of laser designators.

- **Current Capability:** Partial.

- **Discussion:** The bombing range has several targets and run-in lines. Throughout the target area are radar reflectors and tactical targets of wood and metal construction (simulated AAA sites). An Army tank is located at the center of the main bull. There is a strafe pit and a current SOP is under revision to include strafe operations for FA-18, A-10, F-15, F-16 and AV-8 aircraft. There are no structural targets.

- **Current Operational Impact of Capability Shortfall:** Minimal. Impact could become Moderate when the EA-18G begins A-G training from Whidbey Island.

- **Recommendation:** Initiate comprehensive range planning and environmental planning (EA/EIS) to re-develop the bombing range target areas and target suites in coordination with Navy RCD requirements, other NWTRC training needs (NSW MOUT, etc), and joint use needs of the ORNG.

### STW Instrumentation System

- **Requirement:** The instrumentation system should include all necessary components and elements associated with event tracking, EC&C, M&S, scoring, and debriefing. EC&C: Basic level requires the ability to conduct EC&C in 2-D and 3-D; M&S: Basic level requires ability to conduct M&S for A-S, A-G, S-S, S-A, and Sub-S. Scoring: Basic level requires manual or auto scoring. Basic requires feedback in real-time. RTKN at the Basic level is voice or auto. Debrief: Local and remote debrief capability. Specific TSPI requirements:

  - **Basic**

    - Tracking TSPI

      - High Fidelity Tracks: 10; includes at least 4 Blue aircraft and 4 land-attack missiles.

      - Low Fidelity Tracks: 4; includes the surface and subsurface land-attack or NSFS platforms and AEW aircraft.

  - **Intermediate**

    - Tracking TSPI

      - High Fidelity Tracks: 26; includes up to 12 Blue and 12 OPFOR tactical aircraft and 2 UAVs.
• Low Fidelity Tracks: 12; includes at least three surface/subsurface NSF and land-attack missile platforms and at least 8 support aircraft.

• **Current Capability:** Minimal.

• **Discussion:**
  - **TSPI:** The range complex lacks TSPI coverage for the ranges, nor does it have any EC&C or M&S capability.
  - **Scoring:** Scoring systems once present at NWSTF Boardman are no longer usable. Scoring towers remain, but all scoring equipment has been removed.
  - **Debrief:** The complex lacks any debrief capabilities for STW events.

• **Current Operational Impact of Capability Shortfall:** Moderate. Impact could become Moderate when the EA-18G begins A-G training from Whidbey Island.

• **Recommendation:** Initiate comprehensive range planning and environmental planning (EA/EIS) to re-develop the bombing range target areas and target suites in coordination with Navy RCD requirements and other NWTRC training needs (NSW MOUT, etc.). Investigate potential to jointly broaden the computerized instrumentation and target system the ORNG will be installing for their own ranges.

### STW OPFOR System

• **Requirement:** The OPFOR System should include all necessary components and elements associated with presenting friendly event participants with an operating environment that replicates, to the greatest extent practical, the expected enemy order of battle in the area of planned operations. OPFOR for training events in STW should consist of realistic EC threat levels, and fixed- and rotary-wing aircraft with A-A missile capability. Specific requirements are:

  - **Basic**
    - EC Threat Level 1.

  - **Intermediate**
    - At least two live or virtual rotary-wing threat aircraft with A-A missile capability, one of which must be live.
    - Live or virtual fixed-wing threat aircraft equal in number to 1.5 times the number of friendly aircraft, up to a total of 12 threat aircraft per event. (The total number of rotary-and fixed-wing threat aircraft may include a combination of live, virtual, and constructive threats, so long as the number of live threats is equal to or great than the number of live friendly aircraft).
    - EC Threat Level 3.

• **Current Capability:** Minimal.
Discussion: The NWTRC has no dedicated rotary wing OPFOR aircraft; or fixed wing through contract air services. There is no EC capability at Boardman.

Current Operational Impact of Capability Shortfall: Minimal. If needed for STW training operations in the complex, other aircraft from Naval Air Station (NAS) Whidbey Island can perform as OPFOR for the basic and intermediate training requirements. Impact could become Moderate when the EA-18G begins A-G training from Whidbey Island.

Recommendation: Develop mobile ECM emitters and “Smart Targets” for OPFOR EC as well as coordinate with Portland Air Guard, Klamath Falls Air Guard, and 366th FW (Mountain Home) for OPFOR air with CAS as necessary to supplement military units. Coordinate with Portland USAFR H-60’s and Pendleton Guard CH-47’s as rotary wing OPFOR as available. Coordinate with ORNG for ground based OPFOR (simulated gunnery/SAM) as required and available.

7.3.7 Capabilities in support of Navy Electronic Combat

Training Level (Range’s Role & Mission Priority):
Basic (1); Intermediate (3)

Electronic Combat (EC) is supported at NWTRC for both the basic and intermediate levels. Intermediate and Advanced level EC training is conducted in conjunction with other PRMAR range functions.

EC Airspace

Requirement:
Basic
- 45 minute period.
- 30 nm by 60 nm area.
- Surface to 30,000 feet AGL.
- Allows the use of chaff and flares.
- Should support two concurrent events.

Intermediate
- Intermediate Level EC training is conducted in conjunction with Intermediate Levels of training as part of the other PRMAR range functions.

Current Capability: Partial.

Discussion: The offshore airspace associated with W-237 meets the RCD dimensional Requirement. The Okanogan and Roosevelt MOAs, when combined with their associated high altitude Air Traffic Control Assigned Airspace (ATCAA) meet the airspace requirement. The area which predominately supports EC operations in the NWTRC is the Darrington OPAREA. Altitude limits are not clearly specified, but can be
expected from 10,000 feet MSL to FL230. Chaff and flare expenditure is allowed in all offshore areas. Flare expenditure is allowed overland but only in designated SUA and above 500 feet (700 for helicopters).

- **Recommendation:** Acquire EW emitters to be located throughout the range complex and along the coast so that aircraft and ships can receive simulated electronic signals.

**EC Sea Space**

- **Requirement:**
  - **Basic**
    - 1 hour period.
    - 20 nm by 30 nm area.
    - Allow land-based and airborne EC emitters to stimulate the surface or subsurface combatants’ onboard equipment.
    - Allow for multiple concurrent events.
  - **Intermediate**
    - Intermediate Level EC training is conducted in conjunction with Intermediate Levels of training in the other PRMAR range functions.

- **Current Capability:** Partial.
- **Discussion:** The sea space associated with the NWTRC meets the RCD requirement in terms of dimension and availability. However, the sea space is not situated such that existing land-based EW emitters can stimulate surface and subsurface combatants’ onboard equipment.

- **Current Operational Impact of Capability Shortfall:** Moderate.
  - **NTAs Affected:** 3.2.5
  - **Training Impact and Current Workaround:** Ships must conduct EW training in other ranges.
  - **Impact on Current Shortfall of Introducing New Weapons Systems, Tactics, or Missions:** None.

- **Recommendation:** Acquire an EW emitter to be located along the coast so that ships underway can receive simulated electronic signals.

**EC Undersea Space**

- **Requirement:**
  - **Basic**
    - 1 hour period.
    - 20 nm by 30 nm OPAREA.
  - **Intermediate**
    - Intermediate Level EC training is conducted in conjunction with Intermediate Levels of training in the other PRMAR range functions.
• **Current Capability:** Full.

• **Discussion:** The undersea space associated with the NWTRC meets the full RCD requirement; however, no EC emitter is located so that it could provide EC training to underway submarines.

• **Recommendation:** Acquire an EW emitter on the coast to provide EC training to subs.

**EC Land Area**

• **Requirement:**
  
  **Basic**

  • 45 minutes period.

  • 20 nm by 20 nm range (capability objective).

  • Allow for two concurrent events.

  **Intermediate**

  • Intermediate Level EC training is conducted in conjunction with Intermediate Levels of training I the other PRMAR range functions.

• **Current Capability:** Partial.

• **Discussion:** The NWTRC does not have any dedicated land area within the complex with the exception of the Naval Weapons Training Facility at Boardman, which, while smaller than required, could be configured to conduct two concurrent events as the emitters have to be on Navy land, but the aircraft only have to be inside the restricted airspace. The Boardman area does routinely support EC operations, but they are all tactics based on pre-planned or made-up on-the-spot “simulated threats”, not actual RF threat transmissions from an emitter.

• **Current Operational Impact of Capability Shortfall:** Minimal. The lack of dedicated land area has little effect on the EC operations conducted by EA-6B and P-3 aircraft in the NWTRC.

• **Recommendation:** Initiate comprehensive range planning and environmental planning (EA/EIS) to redevelop the bombing range target areas, target suites and EC capabilities in coordination with Navy STW and EC RCD requirements, other NWTRC training needs (NSW MOUT, etc) and joint use needs of the ORNG.

**EC Communications System**

• **Requirement:**

  **Basic**

  • Two dedicated EC&C circuits, at least one of which must support secure communication, including ship-to-shore.

  • Two dedicated OC circuits, one of which must support secure communication, including communications with airborne, surface, and subsurface participants.
Intermediate
- Intermediate Level EC training is conducted in conjunction with Intermediate Levels of training and other PRMAR range functions.

- **Current Capability:** Partial.
- **Discussion:** NAS Whidbey Island lacks a secure communications circuit capable of communications with airborne, surface, and subsurface participants.
- **Current Operational Impact of Capability Shortfall:** Minimal. The EC Operations which occur in the NWTRC are predominantly by EA-6B aircraft and are affected little by the communications shortfall in the completing of required training.
- **Recommendation:** None.

**EC Target System**

- **Requirement:**
  - Basic
    - Multiple, geographically separated sites with equipment arrayed consistent with OPFOR tactical employment.
    - Visually significant targets that replicate the expected Threat Enemy Order of Battle (EOB) equipment.
    - At least one site should allow for the use of live weapons, including anti-radiation missiles.
  - Intermediate
    - Intermediate Level EC training is conducted in conjunction with Intermediate Levels of training and other PRMAR range functions.

- **Current Capability:** Minimal.
- **Discussion:** There is one AN/FSQ-T22 Remote Emitter Signal Simulator located at Outlying Field (OLF) Coupeville. VAQ, VP, and VQ aircrew conduct electronic surveillance measure (ESM) and Electronic Attack (EA) training in the Darrington OPAREA, using this FSQ emitter.
- **Current Operational Impact of Capability Shortfall:** Moderate.
  - **NTAs Affected:** 3.2.5.
  - **Training Impact and Current Workaround:** Aircrews are unable to see threats from multiple axes and conduct much of their training at remote locations, including Fallon and SOCAL.
  - **Impact on Current Shortfall of Introducing New Weapons Systems, Tactics, or Missions:** Impact unchanged with introduction of EA-18G.
- **Recommendation:** Acquire Smart targets and mobile emitters for use at NWSTF Boardman. Also, acquire a fixed emitter, to be located along the Pacific coastline.
EC Instrumentation System

- **Requirement:** The instrumentation system should include all necessary components and elements associated with event tracking, EC&C, M&S, scoring, and debriefing. EC&C: Basic level requires the ability to conduct EC&C in 2-D and 3-D; M&S: Basic level requires ability to conduct M&S for A-A, A-S, A-G, S-S, S-A, S-Sub, and Sub-Sub. Scoring: Basic level requires auto scoring. Basic requires feedback in real-time. RTKN at the Basic level is voice. Debrief: Local and remote debrief capability. Specific TSPI requirements:
  - **Basic**
    - TSPI: five high fidelity and one low fidelity.
    - The ability to conduct EC&C in 2-D and 3-D.
    - An automatic scoring system.
    - The ability to provide feedback both real-time and post mission; have voice RTKN.
    - The ability to provide an event debrief at both the host range facility and some other remote location.
  - **Intermediate**
    - All Intermediate level EC training requirements are reflected in the Intermediate Level Instrumentation requirements for all other range functions.

- **Current Capability:** Partial.

- **Discussion:**
  - TSPI: The NWTRC lacks TSPI for portions of overland SUA in the complex. M&S or scoring capability.
  - **EC&C in 2-D, 3-D and in the Joint National Training Capability (JNTC) context:** The range complex has no inherent radar tracking system for all overland and offshore areas.
  - **M&S not available for:** Simulation for EC is only available for aircraft operations via the AN/FSQ-T22 Electronic Combat Trainer. No other M&S is available for EC operations.
  - **Scoring:** The AN/FSQ-T22 trainer automatically scores EC events.
  - **Debrief:** The AN/FSQ-T22 has a debrief capability for EC operations.

- **Current Operational Impact of Capability Shortfall:** Moderate. The lack of instrumentation within the complex limits the effectiveness of aircrew training in EC. No real-time or debrief capability exists that could greatly enhance current and future training requirements.

- **Recommendation:** Recommend acquiring instrumentation systems that meet the RCD requirements.
EC OPFOR System

- **Requirement:** To meet the full requirement for the basic level in EC training events, the OPFOR system must be capable of EC Threat Level 1. EC threat level 1 represents a limited number (1-2) of threat weapon system emitters, used primarily for threat signal recognition. EC threat level 1 systems generate signals with sufficient realism and fidelity to stimulate friendly platforms’ signal recognition, processing, and display systems.
  - Specific requirements are:
    - **Basic**
      - EC Threat Level 1.
    - **Intermediate**
      - All Intermediate level EC training requirements are reflected in the Intermediate Level Instrumentation requirements for all other range functions.

- **Current Capability:** Full.

- **Discussion:** There is one AN/FSQ-T22 Remote Emitter Signal Simulator located at Outlying Field (OLF) Coupeville. No OPFOR EC at Boardman. VAQ, VP and VQ aircrew conduct electronic surveillance measure (ESM) and Electronic Attack (EA) training in the Darrington OPAREA, using this FSQ emitter. This EC system meets the OPFOR requirements for EC threat level 1.

- **Recommendation:** Provide EC OPFOR at Boardman via Smart Target and/or mobile emitters and install an EC emitter along the coast that can be used in W-237.

### 7.3.8 Capabilities in support of Naval Special Warfare (NSW) and Explosive Ordnance Disposal (EOD)

**Training Level (Range’s Role & Mission Priority):**
Basic (1); Intermediate (2)

NSW is supported in the NWTRC at the basic (Professional Development [PRODEV]) and intermediate (Unit Level Training [ULT]) level of training.

**NSW and EOD Airspace**

- **Requirement:** Airspace is required for qualification level training associated with both rotary- and fixed-wing units and for S-A indirect fire weapons. Specific requirements are:
  - PRODEV
    - Normally not required.
  - ULT
    - A day-night period.
    - Area from surface to 6,000 feet AGL. (Surface to 25,000 feet AGL required for High Altitude, Low Opening (HALO) and High Altitude, High Opening (HAHO) jump training).
    - Area extends 8 nm on either side of the land area.
Current Capability: **Full**.

**Discussion:** W-237 starts 3 nm from the shoreline, extending seaward. The Olympic MOA covers a portion of the Olympic Peninsula and extends to the border of W-237 A/B, 3 nm beyond the shoreline. When combined, W-237 A/B and the Olympic MOA meet most of the airspace requirements. (The Olympic MOA does not extend below 6,000 feet and, although over land, the MOA is not over a land range. Airspace at NWSTF Boardman is restricted up to 20,000 feet and it is possible to NOTAM the extra 5,000 feet to meet the 25,000 foot requirement. High Altitude Low Opening (HALO) and High Altitude High Opening (HAHO) parachute operations are currently conducted at the OLF Drop Zone at OLF Coupeville, however due to airspace limitations maximum altitude is restricted to 13,000 feet.

**Current Operational Impact of Capability Shortfall:** **Minimal.** The positioning of the airspace to the land area has little effect on those NSW operations which occur in the NWTRC. Raising the altitude of the restricted area associated with NWSTF Boardman to FL250 should be considered.

**Recommendation:** Certify a DZ to conduct HALO/HAHO at NWSTF Boardman when altitudes in excess of 13,000 feet are required.

**NSW and EOD Sea Space**

**Requirement:**
- **PRODEV**
  - Normally not required.
- **ULT**
  - A 50 nm$^2$ area that is at least 5 nm wide, centered on and contiguous to the beachfront, and extending seaward to the staging platform(s).

**Current Capability:** **Partial.**

**Discussion:** The at sea areas meet the dimension and area requirements of the RCD but do not start until 3nm from the beachfront. Crescent Harbor has over 4 square miles of sea space backed by the 782 acre survival area at NAS Whidbey Island Seaplane Base with 2.5 nm of beach front and has been used for Joint and Army Special Operations exercises in the past. Ault Field has 4.2nm of beach front and Navy 3 surface restricted area is approximately 5 miles offshore. Both Ault Field and the Seaplane Base survival area have been used for small unit Special Forces over the beach operations.

**Current Operational Impact of Capability Shortfall:** **Minimal.** The sea space positioning with respect to the beachfront has little effect on those NSW operations which occur in the NWTRC.
NSW and EOD Undersea Space

- **Requirement:**
  - **PRODEV**
  - **ULT**
    - A 30 nm² area that is at least 5 nm wide, centered on and contiguous to the beachfront, and extending seaward to the staging platform(s).
    - At least some portion of the undersea space must be cleared for the use of MCM weapons, explosive, and clearing devices used by NSW/EOD.

- **Current Capability:** Partial.

- **Discussion:** The undersea space meets the area requirements of the RCD but does not start until 3nm from the beachfront. The water area of Crescent Harbor near the Whidbey Island Seaplane Base is up to 15 fathoms (90 feet) deep in places and is cleared for use of MCM weapons, explosive, and clearing devices. Explosive charges are authorized with a net explosive weight (NEW) up to 20 pounds (lbs) in off shore areas deeper than 40 feet, but a recommended normal NEW usage of 2.5lbs has been requested by Commander, Navy Region Northwest (CNRNW).

- **Current Operational Impact of Capability Shortfall:** Moderate. The undersea space positioning with respect to the beachfront has little effect on those NSW operations which occur in the NWTRC. The lack of ability to use higher NEW in EOD/MCM operations has an impact on the realism of these operations.
  - **NTAs Affected:** 1.1.2.4, 1.3.1, 1.3.2, 1.4.4, 1.5.6
  - **Training Impact and Current Workaround:** Self-imposed restrictions in place at Crescent Harbor prohibit certain training events, segments training reduces realism, limits application of new weapons technologies, inhibits tactics development, and reduces live fire proficiency. Currently EOD personnel are using lower a NEW, but are not getting the required training in all aspects of mine neutralization.
  - **Impact on Current Shortfall of Introducing New Weapons Systems, Tactics, or Missions:** Lack capability to train with new technologies due to NEW restrictions has an impact on any future weapons development.

- **Recommendation:** Incorporate Biological Assessment (BA) and Draft Environmental Assessment (EA) for EOD operations in Crescent Harbor into future NWTRC NEPA studies. Periodically review self-imposed restrictions to ensure they are valid and do not overly inhibit EOD unit readiness.
NSW and EOD Land Area

- **Requirement:**
  - PRODEV
    - Small arms ranges capable of accommodating MK-46 and MK-48 machine guns.
  - ULT
    - Small arms ranges capable of accommodating MK-46 and MK-48 machine guns.
    - A 24 hour day-night period on a land area that includes dedicated Maneuver, Live-Fire and Maneuver, and Military Operations in Urban Terrain (MOUT) areas.
      - Maneuver: A dedicated area of at least 20 nm² that includes 5,000 yards of beachfront that would allow at least five optional venues (with varying terrain) of 1,000 yards each.
      - Live-Fire and Maneuver: 20 nm² area with 1,000-yard beachfront. At least some portion should be cleared for live-fire weapons.
      - MOUT Facility: Must include a central urban area (at least .5 sq miles) and a smaller outlying area that support live-fire training for direct- and indirect-fire weapons, breaching, and rotary-wing Combat Air Support (CAS).
      - Live-Fire Training Area: At least 6 sq miles, including a Surface Danger Zone (SDZ) for direct and indirect weapon systems. At least some portion should be cleared for the use of live Naval Sea Fire Support (NSFS), A-G, and NSW weapons and laser target designation.
    - SUA: Must include SUA for approach.

- **Current Capability:** Minimal

- **Discussion:** Ault Field has a live fire outdoor pistol and rifle range; the MK-46 and MK-48 machine guns fire standard caliber rifle rounds. However, the NWTRC lacks any large dedicated land area associated with a beachfront and does not have a MOUT. Additionally, there are no live fire maneuver ranges in the Puget Sound area or at Kodiak Island.

- **Current Operational Impact of Capability Shortfall:** Moderate. The lack of land area, maneuver area, firing range, and a MOUT has a moderate impact on NSW training events that occur in the NWTRC.
  - NTAs Affected: 1.1.2.4, 1.5.6, 4.9
  - Training Impact and Current Workaround: SEALs currently segment their training they conduct in the NWTRC. They conduct the underwater transit portion of their training here, but the lack of live fire ranges forces them to conduct live fire training elsewhere. They have a need for the ability to run an end-to-end operation; one that entails covert underwater transit and over-the-beach
transition to an actual live fire event. SEALs conducting cold weather training at Kodiak have a similar need. SEALs have a requirement to maneuver in a cold weather environment, then transition to a live fire solution. No live fire range exists in Kodiak for this training.

- **Impact on Current Shortfall of Introducing New Weapons Systems, Tactics, or Missions:** None.

- **Recommendation:** Discuss with ORNG any need for a MOUT facility they have that could be jointly developed at NWSTF Boardman. Pursue a live fire capability that would allow the SEALs to conduct live fire training as the culmination of an over-the-beach exercise. Also, aggressively pursue a live fire range on Kodiak that would allow firing 7.62mm and 5.56mm weapons.

**NSW and EOD Communications System**

- **Requirement:** The communications system shall be comprised of the following:
  - PRODEV
    - One EC&C circuit.
    - At least 3 OC circuits to support communications with ground, airborne, and surface participants.
  - ULT
    - Two EC&C circuits, one of which must support A-G and ship-to-shore (where applicable).
    - Three OC circuits, one of which must support A-G and ship-to-shore (where applicable).
    - One data link circuit.

- **Current Capability:** Minimal.

- **Discussion:** The preponderance of NSW training is either underwater or at the Kodiak Cold Weather Training facility. Lack of these communications systems has little impact on NSW training.

- **Current Operational Impact of Capability Shortfall:** Minimal.

**NSW and EOD Target System**

- **Requirement:**
  - PRODEV
    - N/A
  - ULT
    - Exposed beach obstacles and fortified beach or near-shore defenses, at least some of which must be cleared for engagement with inert A-G weapons, and live NSW weapons and explosives.
    - Dedicated targets cleared for engagement with live NSFS ordinance.

- **Current Capability:** Minimal.
• **Discussion:** Ault Field has a live fire outdoor pistol and rifle range. However, the NWTRC lacks any beach obstacles or fortified beach or near-shore defenses. Additionally, there are no live fire maneuver ranges in the Puget Sound area or at Kodiak Island.

• **Current Operational Impact of Capability Shortfall:**
  **Moderate.** The lack of a firing range has a moderate impact on NSW training events that occur in the NWTRC.
  - **NTAs Affected:** 1.1.2.4, 1.5.6, 4.9
  - **Training Impact and Current Workaround:** SEALs currently segment their training they conduct in the NWTRC. They conduct the underwater transit portion of their training here, but the lack of live fire ranges forces them to conduct live fire training elsewhere. They have a need for the ability to run an end-to-end operation; one that entails covert underwater transit, and over-the-beach transition to an actual live fire event. SEALs conducting cold weather training at Kodiak have a similar need. SEALs have a requirement to maneuver in a cold weather environment, then transition to a live fire solution. No live fire range exists in Kodiak for this training.
  - **Impact on Current Shortfall of Introducing New Weapons Systems, Tactics, or Missions:** None.

• **Recommendation:** Pursue a live fire capability that would allow the SEALs to conduct live fire training as the culmination of an over-the-beach exercise. Also, aggressively pursue a live fire maneuver range on Kodiak that would allow firing 7.62mm and 5.56mm weapons.

**NSW Instrumentation System**

• **Requirement:** The instrumentation system should include all necessary components and elements associated with event tracking, EC&C, M&S, scoring, and debriefing. To meet requirements of NSW training events the range should have the following: ability to track five low fidelity targets; the ability to conduct EC&C in 2-D; the ability to conduct M&S for A-S, A-G, G-G, S-S, S-A, and Sub-S; an automatic scoring system; the ability to provide real-time feedback; have auto RTKN; and the ability to provide an event debrief locally.

• **Current Capability:** **Minimal.**

• **Discussion:**
  - **TSPI:** The NUWC ranges meet the underwater TSPI instrumentation required by the RCD to support NSW operations. There is no air or surface TSPI system throughout the range complex.
  - **EC&C in 2-D, 3-D and in the Joint National Training Capability (JNTC) context:** The range complex has no inherent radar tracking system.
M&S not available for: The complex lacks any M&S capabilities to support NSW operations.

- Scoring: There is no scoring capability in the range complex.
- Debrief: The complex lacks the capability for debrief of NSW events.

Current Operational Impact of Capability Shortfall: Minimal. The preponderance of NSW training is either underwater or at the Kodiak Cold Weather Training facility. Instrumentation capabilities in the Puget Sound area exceed the needs of the NSW forces that train there. No instrumentation is required for NSW training at Kodiak.

**NSW OPFOR System**

- Requirement:
  - PRODEV
  - Individual Free Option Simulator (rules of engagement simulator).
  - ULT

- Current Capability: Minimal.
- Discussion: The NWTRC lacks any dedicated NSW opposition forces and lacks the ability to create these forces virtually.

Current Operational Impact of Capability Shortfall: Minimal. The lack of an OPFOR has little impact on the types of NSW training operations which occur in the complex; however, contacts should be developed and maintained with local active duty, reserve and national guard units to allow coordination for the use of their personnel as OPFOR on an as needed, as available basis.

### 7.4 RCD Gap Analysis Shortfall Summary

The RCD Gap Analysis Shortfall Summary (Figures 7-2 through 7-5) is the summary of the range capability shortfalls for the NWTRC. Capabilities that fully meet the defined requirement are not included within the summary.
<table>
<thead>
<tr>
<th>Range Attribute</th>
<th>Capability Shortfall</th>
<th>Operational Impact</th>
<th>Recommendation</th>
<th>Investment Required</th>
<th>Environmental Planning Required</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Range Attributes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduling System</td>
<td>Lacks web-based interface and data collection capabilities.</td>
<td>Minimal</td>
<td>Upgrade scheduling system to meet RCD web-based and data collection requirements by installing NAVSKED and making follow-on improvements</td>
<td>Yes (now)</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>MET System</td>
<td>Lacks sea state reporting and sound velocity profile reporting (ASW events only) capability</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Anti-Air Warfare</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airspace</td>
<td>Does not meet vertical or overland area requirement. Not all areas support supersonic flight</td>
<td>Minimal</td>
<td>Coordinate higher altitudes for MOAs and other airspace as required.</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Comms System</td>
<td>Complex lacks Communications to cover offshore areas</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Target System</td>
<td>No Drone capabilities in complex</td>
<td>Moderate</td>
<td>Acquire a S-A towed target capability (Commercial Air Services)</td>
<td>Yes (now)</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Instrumentation System</td>
<td>No inherent tracking system, EC&amp;C, M&amp;S or scoring system.</td>
<td>Moderate</td>
<td>Recommend acquiring instrumentation systems that meet RCD requirements</td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>OPFOR System</td>
<td>Lack dedicated OPFOR aircraft</td>
<td>Moderate</td>
<td>Acquire a A-A OPFOR capability (Commercial Air Services)</td>
<td>Yes (now)</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td><strong>Anti-Surface Warfare</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comms System</td>
<td>Complex lacks Communications to cover offshore areas</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Target System</td>
<td>No inherent ASUW towed or self propelled targets present in complex.</td>
<td>Moderate</td>
<td>Acquire towed and self-propelled targets</td>
<td>Yes (now)</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Instrumentation System</td>
<td>The OPAREAS lack any instrumentation</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>OPFOR System</td>
<td>No live OPFOR Combatants</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Figure 7-2. RCD Gap Analysis Shortfall Summary – Common Range Attributes, AAW, ASUW
<table>
<thead>
<tr>
<th>Range Attribute</th>
<th>Capability Shortfall</th>
<th>Operational Impact</th>
<th>Recommendation</th>
<th>Investment Required</th>
<th>Environmental Planning Required</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anti-Submarine Warfare</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undersea Space</td>
<td>Lack of UTR in submarine operating areas</td>
<td>Minimal</td>
<td>Use NUWC Keyport portable tracking systems as necessary.</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Comms System</td>
<td>Complex lacks communications to cover offshore areas</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Instrumentation System</td>
<td>No instrumentation, EC&amp;C, M&amp;S for at-sea areas of range complex</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>OPFOR System</td>
<td>No live dedicated surface, subsurface or aircraft OPFOR</td>
<td>Minimal</td>
<td>Use CAS as necessary</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Mine Warfare</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sea Space</td>
<td>Does not meet area requirements</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Undersea Space</td>
<td>Does not meet area requirements</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Comms System</td>
<td>Complex lacks the total number of circuits required for EC&amp;C and OC</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Target System</td>
<td>Complex lacks mine target shapes and mine avoidance range</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Instrumentation System</td>
<td>Lacks the instrumentation required for MCM operations</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>OPFOR System</td>
<td>No live dedicated subsurface or aircraft OPFOR</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Figure 7-3. RCD Gap Analysis Shortfall Summary – ASW, MIW
<table>
<thead>
<tr>
<th>Range Attribute</th>
<th>Capability Shortfall</th>
<th>Operational Impact</th>
<th>Recommendation</th>
<th>Investment Required</th>
<th>Environmental Planning Required</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strike Warfare</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airspace</td>
<td>Does not meet area or vertical area requirement. Lacks multiple geographically separated targets. Supersonic operations are not allowed</td>
<td><strong>Moderate</strong></td>
<td>Initiate comprehensive range planning and environmental planning (EA/EIS) to re-develop the bombing range target areas, target suites and EC capabilities in accordance with Navy STW and EC RCD requirements, other NWTRC training needs (NSW MOUT, etc) and joint use needs of the ORNG</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>Land Area</td>
<td>Current target configuration does not allow for simultaneous events. Inert ordnance only</td>
<td><strong>Moderate</strong></td>
<td>Same as above</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>Comms System</td>
<td>No secure comms at NWSTF Boardman</td>
<td><strong>Minimal</strong></td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Target System</td>
<td>No structural targets</td>
<td><strong>Minimal</strong></td>
<td>Initiate comprehensive range planning and environmental planning (RC-EIS) to re-develop the bombing range target areas, target suites and EC capabilities in accordance with Navy STW and EC RCD requirements, other NWTRC training needs (NSW MOUT, etc) and joint use needs of the ORNG.</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>Instrumentation System</td>
<td>No instrumentation EC&amp; C, M&amp;S, Scoring and debrief capabilities for STW operations</td>
<td><strong>Moderate</strong></td>
<td>Develop instrumentation in conjunction with ORNG capabilities and equipment to ensure compatibility between ORNG installed instrumentation and potential future Navy or joint add-ons for air-to-ground scoring.</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>OPFOR System</td>
<td>Lack dedicated rotary wing threat aircraft. Fixed wing aircraft throught CAS</td>
<td><strong>Minimal</strong></td>
<td>Develop and maintain contacts with the Portland USAFR H-60 squadron, ORNG CH-47 units at Pendleton, ORNG H-60 units and other rotary wing units at Fort Lewis/Gray Army Airfield to coordinate for use as rotary wing OPFOR as needed and as available</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Figure 7-4. RCD Gap Analysis Shortfall Summary – STW
<table>
<thead>
<tr>
<th>Range Attribute</th>
<th>Capability Shortfall</th>
<th>Operational Impact</th>
<th>Recommendation</th>
<th>Investment Required</th>
<th>Environmental Planning Required</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electronic Combat</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sea Space</td>
<td>Sea space not situated near land-based EW emitters</td>
<td>Moderate</td>
<td>Acquire emitter and locate along Pacific coast</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>Land Area</td>
<td>Boardman does not meet area requirements</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Comms System</td>
<td>Lack secure communications to all event participants</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Target System</td>
<td>No multi-axis EW threat</td>
<td>Moderate</td>
<td>Acquire Smart targets and mobile EW emitter</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>Instrumentation System</td>
<td>Lack TSPI and EC&amp;C for portions of the complex SUA</td>
<td>Moderate</td>
<td>Recommend acquiring instrumentation systems that meet RCD requirements</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
</tr>
</tbody>
</table>

Figure 7-5. RCD Gap Analysis Shortfall Summary – EC
<table>
<thead>
<tr>
<th>Range Attribute</th>
<th>Capability Shortfall</th>
<th>Operational Impact</th>
<th>Recommendation</th>
<th>Investment Required</th>
<th>Environmental Planning Required</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naval Special Warfare and Explosive Ordnance Disposal</td>
<td>Air Space: Airspace at sea does not start until 3nm from land; overland does not meet altitude reqmements</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Sea Space</td>
<td>Sea Space is not contiguous to beachfront</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Undersea Space</td>
<td>Undersea space is not contiguous to beachfront; explosive area does not meet EOD needs for N.E.W</td>
<td>Moderate</td>
<td>Invest in Environmental studies to determine impact of explosive operations in Crescent Harbor</td>
<td>Yes (now)</td>
<td>Yes (now)</td>
<td>3</td>
</tr>
<tr>
<td>Land Area</td>
<td>Lacks dedicated land area associated with a beachfront. No MOUT, no live fire capability</td>
<td>Moderate</td>
<td>Pursue development of live fire capabilities near Puget Sound and at Kodiak, AK</td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>Comms System</td>
<td>Complex lacks sufficient circuits required for EC&amp;C and OC for NSW operations</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Target System</td>
<td>Lack beach obstacles and fortified beach areas. No live fire capability.</td>
<td>Moderate</td>
<td>Pursue development of live fire capabilities near Puget Sound and at Kodiak, AK</td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>Instrumentation System</td>
<td>Lacks TSPI for air and surface. No radar, M&amp;S, scoring, or debrief capability.</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>OPFOR System</td>
<td>Lack dedicated land OPFOR forces</td>
<td>Minimal</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Figure 7-6. RCD Gap Analysis Shortfall Summary – NSW and EOD

Notes:
- Only attribute shortfalls judged severe or moderate are included.
- Investment Required: (Yes-Now; Yes-Later; No)
- Environmental Planning Required: (Yes-Now; Yes-Later; No)
- Priority 1 - Severe impact requiring current investment and/or immediate environmental planning. Priority 2 - Moderate impact requiring current investment and/or immediate environmental planning. Priority 3 - Severe or moderate impact not requiring either current investment or immediate environmental planning.
Range assessments should contain recommendations for improvement. This chapter is a compilation of recommendations from analysis of Northwest Training Range Complex (NWTRC) encroachments (Chapter 5), the strategic plan (Chapter 6), capabilities (Chapter 7), organization and processes (Chapter 9), and outreach (Chapter 10). Recommendations are presented in two broad categories, those requiring investment (8.1) and those that will not likely require investment (8.2). Investment recommendations are prioritized as follows:

- **Priority 1:** Recommendations that address current or potential severe operational impacts that can/should be addressed immediately and affect high (1) priority mission areas. This includes investments for the current POM or those that are currently planned/programmed.

- **Priority 2:** Recommendations that address current or potential moderate operational impacts that can/should be addressed immediately or affect medium (2) priority mission areas. This includes investments for the current POM or those that are currently planned/programmed.

- **Priority 3:** Recommendations that address current or potential operational impacts not requiring immediate action or investment in the current POM because:
  - Operational impact is minimal, or
  - Operational impact is severe and mission area priority is low (3), or
  - Operational impact is moderate and mission area priority is medium (2) or low (3).

The matrix developed for use during investment prioritization is provided in Figure 8-1.

<table>
<thead>
<tr>
<th>Mission Priority</th>
<th>SHORTFALL IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe</td>
</tr>
<tr>
<td>High (1)</td>
<td>1</td>
</tr>
<tr>
<td>Medium (2)</td>
<td>2</td>
</tr>
<tr>
<td>Low (3)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Figure 8-1. Northwest Training Range Complex Investment Category Conversion Matrix**

The remaining, non-investment recommendations (sections 8.3-8.7) are classified as strongly recommended, highly recommended, and recommended, using the following definitions:

- **Strongly Recommended:** Those actions that should begin immediately.

- **Highly Recommended:** Those actions that should begin as soon as practicable.
- **Recommended**: Those actions that should begin when convenient.

### 8.1 INVESTMENT RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Investment</th>
<th>Priority</th>
<th>Funding Status</th>
<th>Funding Type</th>
<th>Env. Planning Status</th>
<th>NTA supported</th>
<th>Chapter</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Coverage for NWTRC operations</td>
<td>1</td>
<td>Recommended</td>
<td>TAP</td>
<td>Underway</td>
<td>All</td>
<td>4</td>
<td>Include current and potential Navy operations</td>
</tr>
<tr>
<td>RCC Staff increase</td>
<td>1</td>
<td>Recommended</td>
<td>CIVPERS</td>
<td>N/A</td>
<td>All</td>
<td>9</td>
<td>Increase in staff to support RCC responsibilities</td>
</tr>
<tr>
<td>EC targets, fixed and mobile EC targets</td>
<td>2</td>
<td>Recommended</td>
<td>Procurement, SRAM</td>
<td>Not Started</td>
<td>3.2.5</td>
<td>5, 7</td>
<td>Smart targets, fixed sites, mobile emitters, and associated scoring systems</td>
</tr>
<tr>
<td>Range Instrumentation</td>
<td>2</td>
<td>Recommended</td>
<td>Procurement, SRAM</td>
<td>Not Started</td>
<td>3.2.5, 3.2.6</td>
<td>7</td>
<td>Provide high-fidelity TSPI capability throughout range complex</td>
</tr>
<tr>
<td>Live fire capability near Puget Sound and Kodiak, AK</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>1.1.2.4, 1.5.6</td>
<td>7</td>
<td>For NSW weapons (5.56mm and 7.62mm)</td>
</tr>
<tr>
<td>Boardman RAICUZ update</td>
<td>3</td>
<td>Recommended</td>
<td>TAP</td>
<td>Not Started</td>
<td>3.2.3, 3.2.4, 3.2.5, 3.2.6</td>
<td>4</td>
<td>Include EA-18G and UAV operations</td>
</tr>
<tr>
<td>A-G scoring system at Boardman</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>N/A</td>
<td>3.2.6</td>
<td>6</td>
<td>Potential STW missions from Fallon and/or EA-18G</td>
</tr>
<tr>
<td>Boardman targets reconfigured</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>3.2.6</td>
<td>7</td>
<td>Allow for multiple simultaneous events</td>
</tr>
<tr>
<td>Large NEW underwater demo site</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>1.3.1, 1.5.6</td>
<td>3</td>
<td>For SEAL and EOD training with larger detonations</td>
</tr>
<tr>
<td>Environmental study to increase NEW limits</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>1.3.1.3, 1.4.4, 1.5.6</td>
<td>7</td>
<td>For EOD training at existing ranges</td>
</tr>
<tr>
<td>Web-enabled operations reporting and scheduling system</td>
<td>3</td>
<td>Recommended</td>
<td>Procurement</td>
<td>N/A</td>
<td>All</td>
<td>7, 9</td>
<td>Consider NAVSKED</td>
</tr>
<tr>
<td>Air services, air target capability</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>N/A</td>
<td>3.2.3</td>
<td>7</td>
<td>Provide ship and aircraft services for AAW training</td>
</tr>
<tr>
<td>Surface target capability</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>3.2.1.1</td>
<td>7</td>
<td>Provide ship services for ASUW training</td>
</tr>
<tr>
<td>Offshore instrumentation</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Required</td>
<td>3.2.3</td>
<td>7</td>
<td>Provide AAW debrief capability</td>
</tr>
<tr>
<td>Surface demolition range at Boardman</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>1.3.1</td>
<td>5</td>
<td>Addresses encroachment issues at current ranges</td>
</tr>
</tbody>
</table>

**Notes:**

4. Funded: In progress, funding identified.
5. Unfunded: In progress, funding to be identified.
6. Recommended: Investment identified during the RCMP process.

Figure 8-2. Northwest Training Range Complex Investment Summary
It is strongly recommended that upon completion of this Range Complex Management Plan (RCMP), the Navy complete a combined Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS) covering all operations and investments required to meet Fleet Response Plan requirements. This level of analysis should at least be initially sufficient to adequately evaluate the impacts of current and planned range complex training, providing the minimum necessary legal coverage.

Recommend hiring necessary and appropriate personnel to meet increased demands of the Range Complex Coordinator (RCC) staff. The Commanding Officer, Naval Air Station (NAS) Whidbey Island (WI) is recommended to be the NWTRC RCC. The RCC will have increased responsibilities over a broader area as the individual components of the range complex become more consolidated. The responsibilities center around implementing the vision for the range complex; conducting outreach duties that include organizing, improving dialogue, and attending meetings; and sustaining and improving the existing capabilities to meet potential requirements. The existing NRNW staff is inadequately sized to accomplish the new tasks of the RCC. A staff increase is strongly recommended to meet the growing requirements.

Electronic Combat is the primary mission of the EP-3 and EA-6B, and a secondary mission of the P-3, all based at Naval Air Station Whidbey Island. Additionally, the ALQ-218, a new component of both the EA-18G and EA-6B weapons systems, is currently being fielded which brings a battle space mapping capability and thus new training requirements. These aircrews require multi-axis threat training that is currently unattainable at the NWTRC. Furthermore, increasing the number of emitters, and spreading them out in as many locations as possible, will greatly enhance training. Acquisition of EW emitters is recommended, to include smart targets (EW emitters that visually simulate threat systems) and movable EW emitters. In addition to the targets themselves, scoring systems should be developed to support EC training. Potential locations for the targets and scoring systems include all NWTRC Military Operations Areas (MOAs), Naval Weapons Systems Training Facility (NWSTF) Boardman, Pacific Beach, WA as well as NAS Whidbey Island and/or OLF Coupeville, WA.
8.1.4 New Range Instrumentation System

A range instrumentation system is required to provide tracking information to exercise participants. Range tracking includes the detection of friendly (Blue force) and Opposition Force (OPFOR) event participants, along with a position history of their movements on the range. These real-time location and movement history data are referred to as Time, Space, and Position Information (TSPI), the fidelity of which will depend upon the source(s) and methods used to collect it.

High fidelity TSPI is provided by cooperative systems that are often carried by and/or integrated with a participant platform’s on-board systems. High fidelity TSPI systems, with inherently high update rates and degrees of accuracy, would be able to provide not only a participant’s position, but also detailed information about the participant’s dynamic maneuvers and geospatial relationship to other high fidelity TSPI participants. A high fidelity TSPI system is an essential component for detailed real-time displays and post-mission event reconstruction of events such as air combat maneuver and EC training. Currently, no such system exists in the NWTRC.

Recommend development of a high fidelity TSPI system in the NWTRC to support current and future aircrew training requirements.

8.1.5 NSW Live Fire Capability Near Puget Sound and at Kodiak Island, AK

Recommend pursuit of a live fire capability that would allow SEALs to conduct live fire training as the culmination of an over-the-beach exercise. SEALs currently segment their training in the NWTRC. They conduct the underwater transit portion of their training on the range complex, but conduct live fire training elsewhere due to lack of live fire ranges. They have a need to run an end-to-end operation that begins with covert underwater transit, culminates with an over-the-beach transition to an actual live fire event, and ends with a return underwater transit. SEALs conducting cold weather training at Kodiak have a similar need as they have a requirement to maneuver in a cold weather environment, then transition to a live fire solution. No live fire range exists in Kodiak for this training.

8.1.6 Update RAICUZ for NWSTF Boardman

The existing Range Air Installations Compatible Use Zones (RAICUZ) study for NWSTF Boardman was completed in 1987. Updating the 1987 RAICUZ plan for NWSTF Boardman is recommended. This plan is outdated and needs to be updated for use of the range by current and future aircraft including the EA-18G and UAVs.
8.1.7 New Air-to-Ground Bomb Scoring System at NWSTF Boardman

NWSTF Boardman remains capable of hosting air-to-ground (A-G) strike missions. Several targets are still maintained within the range, and have provided A-G services as late as 2007. The EA-18G’s capabilities will include an A-G mission and, if so, will require a backyard or local target range. Air wings training at Fallon have in the past requested Boardman as a long-range strike target. However, the lack of a bomb scoring system (removed in 1996) has eliminated Boardman as a viable A-G training range. Acquisition of a scoring system for the targets at Boardman, though not immediately required for locally based platforms, will greatly increase the capability of NWSTF Boardman as an A-G target range.

8.1.8 Redesigned Target Configuration at NWSTF Boardman

Recommend that the targets at NWSTF Boardman be redesigned and placed at greater distances from each other. The only A-G range in the complex is NWSTF Boardman. In order for the range to accommodate multiple separate and concurrent air-to-ground range events (an RCD requirement), Boardman’s targets must be reconfigured into geographically separated targets.

8.1.9 Large NEW Underwater Demolition Site

SEAL Delivery Vehicle Team ONE (SDVT-1) routinely trains in the NWTRC, as it meets their requirements for much of their cold water training. One capability that is lacking in the range is a location for conducting underwater demolitions with explosives as large as 300 to 500 lbs. net explosive weight (NEW). Also, the Explosive Ordnance Disposal (EOD) units that train in the complex are limited by the size of explosive charge they can use. EOD needs would be met by an area capable of 20 lb. NEW demolitions. Conducting initial investigations and environmental planning is recommended to determine a suitable area within the NWTRC boundaries in which EOD and SDVT-1 can conduct underwater demolition training with charges as large as 500 lbs. NEW.

8.1.10 Increased NEW Limits at Existing EOD Ranges

The ability to conduct underwater demolition training, with the appropriately sized explosive charges, is essential to maintaining readiness of the Whidbey Island-based EOD units. By unit instruction at EOD Mobile Unit 11 (EODMU-11), maximum detonation net explosive weight (NEW) is 20 pounds. This size limit allows EOD teams to use their full compliment of EOD tools. EODMU-11 is currently operating under limits of 5 lb. in the summer and 10 lb in the winter to reduce fish kill and noise. In 2004 CNRNW placed a 6-month prohibition on EODMU-11 underwater detonations. Subsequently, at the request of CNRNW, EODMU-11 has implemented a normal use limit of 2.5 lbs NEW to help mitigate
impact of underwater demolitions training. Though the standard charge size currently being used is 2.5 lbs. NEW, up to 20 lbs NEW is still technically authorized, though not recommended. Restricted to a 2.5 lb. NEW, EOD units cannot achieve all of their training requirements. Conducting environmental planning to increase maximum NEW limits at Crescent Harbor Underwater EOD Range is recommended.

8.1.11 Web-Enabled Operations Reporting and Scheduling System

A capable operations reporting and scheduling system should allow range users access to a web-enabled database of descriptive information (including individual range resources) for the entire Navy range infrastructure and the ability to schedule required range periods remotely at least two weeks in advance. The pre-event module should support unit-level queries on platform name and training event, identify and notify of competing requests, and support late cancellations flexibly and responsively. The real-time event module should allow range controllers to enter all event related data (prior, during, and after the event). The post-event module should generate automatic post-event messages/emails to users. In addition, operational data within the NWTRC must be captured to document current utilization of the ranges. These data will contribute to developing a historical record to track patterns of utilization, monitor encroachments to operations, and assist in the formulation of range investment planning. No such system exists at the NWTRC. Investment in, or development of, a capable range operations reporting and scheduling system is recommended.

8.1.12 Air Target Services

Surface combatants and aircraft require air targets to complete anti-air warfare (AAW) gunnery training at the basic level. When it arrives to replace the EA-6B Prowler, the EA-18G will have an AAW capability and require air targets. Currently, no air target services exist for the NWTRC. All surface combatant ships must complete this training in SOCAL. Acquisition of air services for locally based surface combatant ships and the EA-18G is recommended. The target system should have the capability to support both air-to-air (A-A) and surface-to-air (S-A) missile exercises, and include subsonic and supersonic drones that can operate from surface to 50,000 feet. The drones in the target system should also be capable of active jamming and simulated cruise missile launch capabilities. For basic training, towed targets are required.

8.1.13 Surface Targets

Surface combatants require surface targets to complete anti-surface warfare (ASUW) training at the basic level. The NWTRC does not have any inherent ASUW targets in the complex. Surface ships have
the ability to launch a floating at-sea target which meets the stationary requirement but these do not replicate the spectral signature of threat platforms. All surface combatant ships must complete their ASUW training in SOCAL. Acquisition of surface targets for locally based surface combatant ships is recommended.

8.1.14 Offshore Range Instrumentation

Recommend acquiring an offshore radar capability that meets the RCD requirements for time, speed, and position information. This system should allow for real-time and post-mission debrief capability.

8.1.15 EOD Surface Demolition Range at NWSTF Boardman

Recommend establishing a site at NWSTF Boardman for EOD forces to conduct land demolition training. Current encroachment limitations discussed in Chapter 5 highlight the restrictions placed on realistic EOD training at NWTRC.

8.2 Potential Future Range Complex Operations, Investments, & Recommendations that Require Additional Environmental Planning

8.2.1 Strongly Recommended Actions

**Issue:** Airspeed limits for Military Training Routes (MTRs) in the NWTRC

- **Recommendation:** Increase maximum airspeeds along NWTRC MTRs to 480 knots. All MTRs in the range complex have maximum speed limits of 420 knots. These lower speeds were adequate for the EA-6B Prowler, but will restrict low altitude training for the faster EA-18G, the Prowler replacement aircraft. The recommended maximum speed limit should allow for timing corrections that permit occasional speeds of 500 knots.

- **Action Command:** NASWI

- **Supporting Commands:** Department of the Navy Representative, Federal Aviation Administration (FAA) – Western Pacific Region (310-725-3910)

**Issue:** MTR altitude limits for low altitude training of the EA-18G

- **Recommendation:** Reduce the minimum altitudes of MTR legs to 200 ft above ground level where allowed. The EA-18G Fleet Introduction Team has indicated a requirement for EA-18G crews to conduct low altitude training along MTRs as low as 200 ft. As an example, IR-342, 344, and 346 all share common legs entering Boardman airspace at the end of the route. While IR-346 has a 200 ft minimum altitude, IR-342 and 344 have a published minimum of 500 ft along the same legs. These and other routes should be reviewed with the regional Navy
Representative of the FAA for opportunities to reduce
minimum altitudes and maximize EA-18G training.

- **Action Command:** NASWI
- **Supporting Commands:** Department of the Navy

Representative, Federal Aviation Administration (FAA) –
Western Pacific Region (310-725-3910)

### 8.3 Environmental, Natural Resources and Land Use Management Recommendations

#### 8.3.1 Strongly Recommended Actions

**Issue:** Monitor management actions in OCNMS

- **Recommendation:** The Navy should continue to participate
  in the OCNMS Advisory Committee meetings and stay
  involved in the Management Plan review process to either
  ensure no further encroachment develops or to push for a
  reduction in current encroachment.

- **Action Command:** CNRNW
- **Supporting Commands:** EFANW

**Issue:** Oregon Army National Guard EA for New Ranges at NWSTF Boardman

- **Recommendation:** The Navy should continue to closely
  review the Oregon Army National Guard’s plans for new
  ranges at NWSTF Boardman to ensure that the proposed
  plans do not conflict with the Navy’s plans for the future use
  of NWSTF Boardman.

- **Action Command:** CNRNW
- **Supporting Commands:** NASWI, EFANW

**Issue:** EIS/OEIS for NAVSEA Keyport Range Complex Extension

- **Recommendation:** NUWC Keyport should drive this effort
  forward to completion so that these important test ranges can
  be extended to accommodate advancing technology and to
  provide enhanced opportunity for testing. It is a critical time
  to address this especially as it relates to the Quinault range as
  this area will be undergoing OCNMS management plan
  review.

- **Action Command:** NUWC Keyport
- **Supporting Commands:** CNRNW, EFANW

**Issue:** Environmental Coverage for the Navy operations occurring in
the NWTRC.

- **Recommendation:** The Navy should continue to conduct a
  combined EIS/OEIS or EA/OEA covering all operations and
  investments required to meet Fleet Response Plan
  requirements. This level of NEPA analysis should at least be
  initially sufficient to adequately evaluate the impacts of
  current and planned range complex training. This document
  will provide the minimum necessary legal coverage.
8.3.2 Highly Recommended Actions

None.

8.3.3 Recommended Actions

Issue: Nature Conservancy Agreement Amendment
- **Recommendation:** The Cooperative Management Agreement between the Navy and the Nature Conservancy (re: NWSTF Boardman) should be revisited in light of the new EA-18G use of the range and the Oregon Army National Guard use of the range.
- **Action Command:** CNRNW
- **Supporting Commands:** EFANW, NASWI

Issue: Integrated Natural Resources Management Plan (INRMP)/Integrated Cultural Resources Management Plan (ICRMP) Implementation
- **Recommendation:** Fully implement all INRMP and ICRMPS as they apply to ranges.
8.4 ENCROACHMENT MITIGATION RECOMMENDATIONS

8.4.1 Strongly Recommended Actions

Issue: Net Explosive Weight (NEW) limit for EOD training

- **Recommendation:** Review NEW limits for underwater charges in local waters to comply with laws and determine value to EOD units of allowing larger NEW limits. Consider increasing allowable NEW to 20 lbs.
- **Action Command:** CNRNW, NASWI
- **Supporting Commands:** EFANW

8.4.2 Highly Recommended Actions

Issue: AGM-88 High-speed anti-radiation Missiles (HARM)

- **Recommendation:** Review the restriction on the HARM live fire events and consider a possible change to allow HARM firings at Boardman or in W-237.
- **Action Command:** CNRNW, NASWI
- **Supporting Commands:** EFANW, CNAF

Issue: Electronic combat (EC) targets and mobile electronic warfare (EW) emitters for NWSTF Boardman

- **Recommendation:** Acquire Smart targets (EW emitters that visually simulate threat systems) and mobile EW emitters at Naval Weapons Systems Training Facility (NWSTF) Boardman.
- **Action Command:** CNAF
- **Supporting Commands:** CNRNW
8.4.3 Recommended Actions

Issue: Military Training Route (MTR) encroachment mitigation

- **Recommendation:** Strive for better coordination between glider operations and low-level military training operations. Maintain awareness of private and commercial development around the MTRs.

- **Action Command:** NASWI
- **Supporting Commands:** CNAF, CFFC

8.5 Outreach Recommendations

8.5.1 Strongly Recommended Actions

Issue: Develop tailored communication objectives to control and reduce encroachment.

- **Recommendation:** Develop a range complex-wide Encroachment Outreach Plan (EOP), guided by overarching Navy policy yet tailored to specific communication objectives and encroachment and sustainability issues facing the NWTRC. The EOP should be developed and implemented by an EOP working group, a subgroup of the Range Complex Management Team (RCMT). The EOP working group should be comprised of CNRNW, Command, and Installation public affairs, range, and environmental representatives, and meet quarterly.

- **Action Command:** NASWI (as RCC)
- **Supporting Commands:** CNRNW
**Issue: Organize list of stakeholders**

- **Recommendation:** Develop a Master Stakeholder Database of interested parties and groups for regular information dissemination. To facilitate more targeted outreach efforts, establish stakeholder categories:
  - Elected officials
  - Agencies
  - Community groups
  - Nongovernmental organizations (NGOs)
  - Media
  - Tribes
  - Internal Navy personnel

Validate and maintain stakeholder contact information frequently and update after events of significant change, such as elections. Maintain a tab for each of the categories, regularly disseminating fact sheets, EIS updates, and other informational materials, as appropriate.

- **Action Command:** NASWI (as RCC)
- **Supporting Commands:** CNRNW

**Issue: Improving dialogue with federal and state elected officials and staff**

- **Recommendation:** Proactively contact and inform federal and state elected officials and staff of issues, in accordance with Navy protocol. Inquire about their primary concerns and offer to assist where and if appropriate. Provide regular status updates and issue-specific information, such as white papers.

- **Action Command:** CNRNW
- **Supporting Commands:** NASWI (as RCC)

**Issue: Improving information flow to elected officials**

- **Recommendation:** Notify and update elected officials prior to airspace training activities for proactive communication and to mitigate noise complaints.

- **Action Command:** NASWI
- **Supporting Commands:** CNRNW

**Issue: Local government meeting attendance**

- **Recommendation:** Assign tasking and responsibility to appropriate Navy personnel to regularly attend city council and county commissioner meetings; coach Navy spokespeople and subject matter experts in key messages and frequently asked questions (FAQs).

- **Action Command:** CNRNW
- **Supporting Commands:** NASWI (as RCC)

**Issue: Regional planning agency coordination**

- **Recommendation:** The CNRNW Ranges/NASWI CPLO should continue to facilitate discussions and negotiations
with local and regional agencies to ensure compatible land
uses; proactively inform local elected officials, staff, and
planning agencies about upcoming projects.

- **Action Command:** CNRNW, NASWI
- **Supporting Commands:** None

**Issue:** Community liaison

- **Recommendation:** Assign tasking and responsibility to
appropriate Navy personnel to attend established community
and business group meetings, such as the Chamber of
Commerce and Rotary Club; coach Navy spokespeople and
subject matter experts in strategic messages and FAQs.
Establish a speaker’s bureau and proactively seek
opportunities to provide encroachment briefings at
established meetings.

- **Action Command:** CNRNW
- **Supporting Commands:** NASWI

**Issue:** Coordinated message to the community

- **Recommendation:** To avoid duplication of efforts and
inconsistent messages, coordinate outreach to community
groups that may support or oppose upcoming range activities
and/or range management practices among region,
command, range, and installation personnel.

- **Action Command:** CNRNW
- **Supporting Commands:** None

**Issue:** NGO partnering

- **Recommendation:** Identify at least three NGOs with a
regional presence to focus outreach efforts for improved
communication and relations, as well as potential partnering
opportunities. Contact NGOs with which relationships
already exist and invite recommendations to improve upon
and expand these relationships.

- **Action Command:** CNRNW
- **Supporting Commands:** None

**Issue:** National issue awareness

- **Recommendation:** Monitor national environmental issue
coverage, newsletters, websites, and web logs; anticipate
potential movements to localize controversial issues.

- **Action Command:** CNRNW
- **Supporting Commands:** None

**Issue:** Media strategy

- **Recommendation:** Develop and pitch feature articles,
opinion/editorials, or advertorials to local and regional media
outlets. Invite media representatives to events and
base/range tours.

- **Action Command:** CNRNW
- **Supporting Commands:** NASWI
Issue: Sea range encroachment

- **Recommendation:** Continue regular updates of fishing access schedule in Navy sea ranges through the Point No Point Treaty Council to avoid the fouling of sea ranges. Consider using this communication channel for other purposes to leverage outreach resources.
- **Action Command:** NUWC
- **Supporting Commands:** CNRNW, NASWI (as RCC)

### 8.5.2 Highly Recommended Actions

**Issue:** Measuring outreach success

- **Recommendation:** Develop formal systems and measurements for tracking outreach efforts and “successes;” disseminate information via the EOP working group. Systems and measurements can include:
  - Database of outreach activities
  - Stakeholder issues and concerns log
  - Media log
  - Stakeholder surveys and interviews
- **Action Command:** RCC
- **Supporting Commands:** None

**Issue:** Informational briefings and tours

- **Recommendation:** Invite elected officials and staff, especially military liaisons, for briefings and range tours annually. Through media briefing packets and tour information, inform media representatives about:
  - the base and/or ranges
  - its mission and operations (purpose and need)
  - environmental stewardship and pollution prevention programs
  - encroachment concerns
  - Navy contributions to the community
- **Action Command:** CNRNW
- **Supporting Commands:** NASWI

**Issue:** National marine resource strategy coordination

- **Recommendation:** Identify a central POC from the RCMT responsible for coordinating efforts with FFC related to national marine resource strategy. This representative should coordinate with CNRNW and local installations, as appropriate, and organize routine communication with local/regional NMFS representatives outside the NEPA environmental planning process for non-incident partnering and cooperation.
- **Action Command:** NASWI (as RCC)
- **Supporting Commands:** CNRNW, FFC
**Issue:** National Marine Fisheries Service (NMFS) partnering
- **Recommendation:** Establish a schedule of periodic briefings to inform NMFS officials of marine mammal protection efforts. Use these opportunities to encourage recommendations for additional partnering efforts.
- **Action Command:** CNRNW
- **Supporting Commands:** NASWI

**Issue:** Maintaining “good neighbor” relations with community
- **Recommendation:** Proactively notify the public and community groups of significant training activities for “good neighbor” relations and to mitigate noise complaints.
- **Action Command:** NASWI (as RCC)
- **Supporting Commands:** CNRNW

**Issue:** NGO-targeted communication
- **Recommendation:** Develop and disseminate quarterly newsletters focusing on environmental stewardship programs and other items of interest to the general community and environmental groups.
- **Action Command:** CNRNW
- **Supporting Commands:** None

**Issue:** Tribal relations
- **Recommendation:** Establish an annual meeting between Commanding Officers and Tribal leaders, alternating between range and reservation visits.
- **Action Command:** CNRNW
- **Supporting Commands:** Base Commanding Officers

### 8.5.3 Recommended Actions

**Issue:** Formalize internal communications
- **Recommendation:** Through the EOP working group, establish formal coordination processes between CNRNW, Command, and Installation personnel for environmental outreach and planning efforts. Activities should focus on impacted stakeholders, encroachment issues, and sustainability interests. Regular coordination allows for:
  - greater sharing of information and ideas,
  - leveraging of resources for programs and projects with common objectives, and
  - brainstorming potential stakeholder partnerships.
- **Action Command:** RCC
- **Supporting Commands:** CNRNW

**Issue:** Outreach message consistency
- **Recommendation:** Conduct quarterly spokesperson and message training to ensure more successful communication and message consistency in all outreach efforts.
- **Action Command:** CNRNW
- **Supporting Commands:** None
Issue: Other agency communications
- Recommendation: Via the RCMT, assign a representative to maintain ongoing communication with priority agencies outside the NEPA planning process. Closely monitor agency positions and seek opportunities to share beneficial information and invite input.
- Action Command: NASWI (as RCC)
- Supporting Commands: CNRNW

Issue: Issue-specific encroachment plans
- Recommendation: As needed, develop installation and/or issue-specific “mini” EOPs for targeted outreach efforts to impacted stakeholder groups (i.e., noise abatement programs, land use compatibility issues).
- Action Command: NASWI (as RCC)
- Supporting Commands: CNRNW

Issue: Tribal relations
- Recommendation: Continue strong participation in Northwest Navy-Tribal Council and working groups.
- Action Command: CNRNW
- Supporting Commands: None

Issue: Tribal Council meeting attendance
- Recommendation: Attend local Tribal Council meetings, when appropriate.
- Action Command: CNRNW
- Supporting Commands: None

Issue: Tribal visits to ranges
- Recommendation: Extend annual (or more frequent) invitations to Tribes to visit culturally significant sites in the range complex.
- Action Command: CNRNW
- Supporting Commands: NASWI (as RCC)

8.6 MISCELLANEOUS RECOMMENDATIONS

None.

8.7 OUTSTANDING RANGE COMPLEX PLANNING ISSUES

None.
9 ORGANIZATION AND PROCESSES

United States Department of Defense (DoD) Directive 3200.15, Sustainment of Ranges and Operating Areas (DoD 2003), defines range sustainment as “managing and operating ranges to support their long-term viability and utility to meet the National Defense Mission.” The Northwest Training Range Complex (NWTRC) organizations and management processes must support sustainability practices that will:

- Ensure the NWTRC is capable of supporting current and future operational requirements while protecting human health and the environment;
- Protect the NWTRC’s natural and cultural resources;
- Promote understanding of readiness, safety, environmental, and economic issues regarding the NWTRC use and management;
- Consider stakeholder interests in range design, use, and management; and
- Facilitate the return of the NWTRC ranges to non-military uses when they are no longer required for national security.

9.1 FORMAL NORTHWEST TRAINING RANGE COMPLEX ORGANIZATION

Successful NWTRC sustainability management practices rely on an organization with the structure, procedures, planning, methods, coordination, and processes that address range sustainability issues. Some of the many components crucial to this process include, but are not limited to:

- A range information management system,
- Data analysis capability,
- Clear definition of roles and responsibilities,
- Well-defined range procedures, and
- Committed senior sponsorship.

Some of the Navy organizations that provide the NWTRC with the assets, infrastructure, management, and support to sustain the complex include:

- Commander, Navy Installations Command (CNIC),
- Commander, U.S. Fleet Forces (USFF),
- Commander, U.S. Pacific Fleet (COMPACFLT),
- Commander, Navy Region Northwest (CNRNW),
- Naval Air Station (NAS) Whidbey Island,
- Naval Station (NS) Everett,
- Naval Base (NB) Kitsap Bangor,
- Naval Undersea Warfare Center (NUWC) Keyport, and
- Naval Facilities Engineering Command, Northwest (NAVFAC NW).
These organizations must interact on a regular basis to overcome encroachment problems, establish policies, and ensure that operations are conducted in a manner contributing to range sustainment and productivity.

These organizations work through formal and informal channels of communications. Enhanced Readiness Teams (ERTs) at the USFF/COMPACFLT and Navy Region levels are organizations that are designed to strengthen the processes and communications within the NWTRC.

Figure 9-1 illustrates the organizational relationships and funding flow that support the NWTRC. The Navy Regions are under the operational control (OPCON) of USFF with respect to mission and operational issues associated with continental United States (CONUS) ranges, to include programming and budgeting. They are under administrative control (ADCON) of CNIC. The Navy Regions have a role in the management of the NWTRC because of their responsibility for environmental coordination and the administration of base operating support (BOS) funding (resourced through CNIC) for range support (range clearance and Explosive Ordnance Disposal [EOD] operations) and range infrastructure such as Class I and II property.

Figure 9-2 illustrates a stream-lined NWTRC organizational and funding flow restructuring proposal.
Figure 9-1. Existing NWTRC Organizational Relationships and Funding Support
Figure 9-2. A Proposed NWTRC Organizational Structure and Funding Support Flow Diagram

9.2 RANGE COMPLEX COMMAND STRUCTURE

The NWTRC command structure is a formal organizational structure requiring established procedures and processes. Establishing formal sustainment organizations and functions such as the Range Complex Coordinator (RCC) with support from the Range Complex Management Team (RCMT) requires headquarters and command concurrence from the participating organizations.

Range complex command management ensures that current and future range sustainment efforts and planning can be managed efficiently and authoritatively. The RCC and RCMT are designed to address the many variables of range encroachment and sustainment.
in a holistic manner. A holistic approach guarantees that encroachment and sustainment matters are analyzed together through coherent, synchronized management practices that lead to integrated outcomes and comprehensive sustainment strategies.

Since the NUWC Keyport ranges primarily support the experimentation, research, development, test and evaluation of USW Systems, the majority of their capability requirements and funding is prioritized and managed by NAVSEA. Additionally, Dabob Bay and Nanoose ranges are a part of the Major Range and Test Facility Board (MRTFB) where the sponsor is NAVAIR who manages the infrastructure maintenance and improvement and modernization efforts. Where ever possible, the Keyport ranges should be leveraged to support Northwest Fleet training requirements.

9.2.1 Range Complex Coordinator (RCC)

The RCC will have a direct coordination role with USFF/COMPACFLT and the supporting commands of the RCMT to implement the responsibilities and recommendations for the NWTRC.

The responsibilities of the Northwest Training RCC will include the following:

- Implement the vision for the complex;
- Manage investment planning and execution;
- Advocate for the Program Objective Memorandum (POM) process, including a role in the funding streams outside of USFF/COMPACFLT and COMNAVAIRPAC purview that have direct impact on the complex. Examples include BOS and Military Construction (MILCON);
- Manage operational planning, scheduling, and execution;
- Manage outreach activities related to the range complex;
- Monitor the status of range complex environmental and facility planning;
- Develop and maintain a master list of Navy tactical tasks or mission essential tasks and any testing capabilities that the range complex is required to support;
- Represent the range complex to USFF’s Enhanced Readiness Team (ERT);
- Validate the capability deficiencies or shortfalls of the range complex identified in Chapter 7 of this RCMP;
- Develop and monitor environmental and investment plans to ensure that the NWTRC is fully ready to support new platforms and weapons systems at initial operational capability (IOC);
- Identify range complex capability shortfalls that result from the introduction of new doctrine, force structure, and weapons systems;
• On a range complex-wide basis, maintain and update a prioritized list of projects and investments needed to address current and future capability shortfalls;
• Develop and monitor plans for integrating the range complex into the Joint National Training Capability (JNTC) architecture;
• Identify emerging NWTRC encroachment challenges and develop strategies to negate, minimize, or mitigate potential impacts on the ability of the range complex to support uncompromised training and testing operations;
• Review and approve NWTRC force structure and supporting range alignment plans;
• Develop and implement consolidated NWTRC communications and scheduling systems and processes;
• Accomplish inter-service/inter-claimant coordination; and
• Perform data collection and reporting, including the quarterly Range Complex Utilization Report (RCUR) to USFF.

The RCC will be supported by the RCMT to accomplish these responsibilities.

9.2.2 Range Complex Management Team (RCMT)

The mission of the Northwest Training RCMT will be to assist the RCC with the responsibilities outlined in Section 9.2.1. Participation by RCMT members will involve responding to the needs of the RCC, as requested. The expertise necessary to support the RCC includes operational environmental planning, environmental compliance, marine resources, legal, public affairs and outreach, operational scheduling, investment planning, and execution.

Recommended membership for the RCMT includes representation from the following commands:
• Commander, Explosive Ordnance Disposal Group One;
• CNIC;
• CNRNW;
• Commander, Naval Air Forces Pacific (COMNAVAIRPAC);
• Commander, Naval Surface Forces Pacific (COMNAVSURFPAC);
• COMPACFLT;
• Commander, Submarine Force, U.S. Pacific Fleet (COMSUBPAC);
• Commander, Third Fleet (COMTHIRDFLT);
• Fleet Area Control and Surveillance Facility (FACSFAC) San Diego, CA;
• Naval Special Warfare Command (SPECWARCOM);
• NAS Whidbey Island;
• NAVFAC NW;
• NB Kitsap Bangor;
• NS Everett;
To the extent possible, the RCMT should include Navy operators and range users, and not only staff personnel. The RCC’s organizational relationship with these entities is shown in Figure 9-1.

### 9.2.3 Range Management at Boardman Range

Range infrastructure management is vital to sustain the facilities, targets, and instrumentation on training ranges. According to the NAS WHIDBEY INSTRUCTION 3770.1B (PACIFIC NORTHWEST OPERATIONS AREA (PACNORWEST OPAREA) MANUAL), services provided by Naval Weapons Systems Training Facility (NWSTF) Boardman are limited. Support services (moving targets, scoring) are no longer provided. As a result, the primary elements of range infrastructure management include: recurring maintenance, range refurbishment, devegetation, wildfire prevention/management, range security presence, and EOD. Volume I of the RCMP contains definitions for the various elements of range infrastructure management discussed in the following paragraphs. This section will focus on the Boardman Range.

Funding responsibility for the infrastructure management for the Boardman Range is through NAS Whidbey Island's Base Operating Support (BOS) account resourced through CNRNW and CNIC. Funding for natural resources projects is available from the Navy’s agricultural outlease program, Commander, Pacific Fleet, and the Legacy Resources Management Program (DoN 1999). Although funding for natural resources projects is available through the agricultural outlease program, no agricultural outleases exist at NWSTF Boardman. All agricultural outleases expired in 2002 and were not renewed due to Department of Defense Explosives Safety Board unexploded ordnance clearance requirements. CNRNW currently receives no Range Operating Support (ROS) funds, which it would be able to apply toward range management.

NWSTF Boardman has several surface targets for tactical aircraft to use, but they have not been maintained since 1996, when the A-6 Intruder retired from Naval Service. Boardman has more than 50 air-to-ground targets that were scored until the instrumentation was removed in the late 1990’s. Targets included: a Moving Target Track Indicator and Moving Airborne Laser Spot Tracker Target. However, they were also deactivated and not maintained. The range included a laser alignment board at the main target and electric scoring for a mobile target and main bull (DoN 1987).

NAS Whidbey Island maintains a small detachment of Navy Personnel (6 to 8 enlisted, CPO in charge) on site to maintain the grounds and facilities (Class 1 and Class 2 real estate). The typical current detachment includes: 1 CPO Machinest Mate, 1 CPO
Corpsman, 1 Mechanic, 1 Heavy Equipment Operator, 1 Steel Worker, 1 Plumber, 1 Electronics Technician and 1 Yeoman. During the more active 1980’s, 32 Navy personnel were assigned to Boardman (DoN 1987). The current Navy personnel are Construction Battalion (CB) rates from NAS Whidbey Operations, and also include one Hospital Corpsman. These personnel provide the day-to-day maintenance for the few buildings, vehicle maintenance/repairs on an as-needed basis, brush fire prevention/response, and provide a security presence (0700-1500 weekdays).

9.2.3.1 Recurring Maintenance

Recurring maintenance at NWSTF Boardman is performed by the Sailors stationed there. Recurring maintenance includes repairing inoperative equipment and maintaining roads, fencing, facilities, and fire breaks. The vehicle inventory at Boardman includes: 1 front-end loader, 1 road grader, 1 5-ton truck with a 1000 gallon fire-fighting package, and a John Deere 6WD “Gator.” EOD operational range clearance and unexploded ordnance (UXO) removal actions also take place on a periodic basis.

As range training intensifies and the numbers of on-range events increase, scheduling range maintenance may become more difficult. It requires advanced, coordinated planning to ensure sufficient time is provided for range maintenance. It also requires flexibility, such as the ability of maintenance personnel to react to last-minute schedule changes to cease all maintenance and open the range.

9.2.3.2 Range Refurbishment

Range refurbishment can include the installation of new range infrastructure hardware or systems, or the upgrade of an existing system. Whether or not the NWTRC requires range refurbishment at NWSTF Boardman is dependent on the Navy’s requirements for the range.

Should refurbishment be advised, the following are a few examples of what may be expected. First, refurbishment can include the necessity to maintain on-range targets and the replacement or repair of battered or damaged targets. Another example is the need to clean up around bull’s-eyes, remark the ground, and replace any objects located adjacent to the target that aid in target recognition. As electronic warfare systems age, they require refurbishment to ensure that they provide realistic threat scenarios. Refurbishment may include review of aging range systems and planned replacement of system components with state-of-the-art hardware when conducting repairs to malfunctioning systems. Older systems may be refurbished to represent current targets, threats, and realistic combat scenarios. Potential future refurbishment at NWSTF Boardman may include: the addition of a mobile electronic threat emitter for Electronic Combat training and target refurbishment to accommodate
live or inert ordnance releases. Also, a proposal is being evaluated under the National Environmental Policy Act (NEPA) to construct a multi-purpose machine gun range and multi-purpose training range for the Oregon Army National Guard on 2,240 acres of NWSTF Boardman.

A system replacement and modernization (SRAM) program is an avenue available to assist the NWTRC with range refurbishment. SRAM funding requirements are coordinated by COMNAVAIRPAC through USFF, resourced by Office of the Chief of Naval Operations (OPNAV) N43, and executed by Program Management, Air (PMA-205; previously PMA-248), whose agent is Naval Surface Warfare Center (NSWC) Corona. This progressive refurbishment or upgrading of systems is a cost-effective method for enhancing range performance and reducing the scope of periodic system replacement.

### 9.2.3.3 Sage-Scrub Management

According to the Integrated Natural Resources Management Plan (INRMP) for NWSTF Boardman, The Nature Conservancy leases 5,050 acres of the total 47,400 acres at NWSTF Boardman. This leased acreage is divided among three tracts, which are managed as Research Natural Areas (RNAs). The RNAs are focused primarily on the conservation of relic populations of native grasslands and are used for ecological studies. At the time the RNAs were first leased to The Nature Conservancy, little was known about what areas of NWSTF Boardman were the healthiest and most ecologically important (DoN 1999).

RNA #1 is centered on the main target bull’s-eye, located in the center of NWSTF Boardman and the Surface Danger Zones (SDZs) for the proposed ORARNG training ranges. This RNA has received a considerable amount of disturbance over the years from the use of the target for bombing practice. A dune area in the northwest portion of NWSTF Boardman has been identified by The Nature Conservancy as a more viable and ecologically important part of the range, and as a possible relocation area for RNA #1 (Nelson 2005). One aspect of the decision-making process in connection with the proposed ORARNG training at Boardman would be the relocation of RNA #1. Such relocation would likely be positive for the Navy, ORARNG, and The Nature Conservancy.

### 9.2.3.4 Devegetation

Removal of vegetation may be periodically required. Vegetation can obscure targets, restrict access to range areas, and create fire hazards, all of which result in range degradation. Navy maintenance teams conduct periodic devegetation as it becomes necessary around range structures and targets. The need for periodic devegetation at NWSTF Boardman is reduced somewhat by the semi-arid climate. Should air-to-ground activity increase, regular programmed devegetation would likely be necessary to prevent wildfires.
Targeted devegetation is also conducted pursuant to the Weed Control Plan, as set forth in NWSTF Boardman INRMP Appendix D (DoN 1989). Several noxious weeds are present at NWSTF Boardman, including: rush skeletonweed, yellow starthistle, spikeweed, perennial pepperweed, Scotch thistle, knapweed, medusahead rye, cereal rye, and Russian thistle, among others. As funds are available, Navy weed control is conducted via aerial application of certain herbicides in the appropriate concentration for the target species. Manual spraying and pulling of weeds was also conducted by The Nature Conservancy within the RNAs and their associated 200 meter-wide buffer areas (DoN 1989).

9.2.3.5 Wildfires

The 2001 Federal Wildland Fire Management Policy directs each federal agency with burnable acreage to develop a Fire Management Plan. Fire management plans are strategic documents based on existing land management plans, and designed to guide the full range of fire management related activities in a unit or area. Fire Management Plans are supplemented by operational plans such as preparedness plans, dispatch plans, prescribed burn plans, and prevention plans. Fire Management Plans include consideration of local resource management objectives and activities, such as restoring and sustaining ecosystems and protecting communities and public safety. The Department of Defense was a signatory to the 2001 policy. NAS Whidbey Island is in the process of developing a Fire Management Plan for NWSTF Boardman.

According to the 2006 Morrow County, OR Community Wildfire Protection Plan, within the county there are two incorporated cities with fire departments, Heppner and Lexington. Both are operated with volunteer fire fighters. In addition, there are six rural fire protection districts within the county: Heppner, Ione, Irrigon, Boardman, S. Gilliam Rural, and Pilot Rock rural fire districts. In the rural fire districts, there are only three paid fulltime fire fighters, the remainder are volunteers. In 2005, Morrow County elected to cover all lands outside the Forest Protection District with rural fire protection for both structures and wildland (Morrow County, OR 2006).

Although Sailors at Boardman are qualified in basic wildland fire fighting, none are Incident Commander qualified – a required qualification for at least one individual of a crew attempting to suppress wildfires. The Sailors at Boardman are qualified to suppress incipient fires, but not true wildland fires, nor are they trained or equipped to fight structural fires. Fires most often occur naturally at the range (by lightning). Fires at NWSTF Boardman in 1998 and 2002 burned 17,000 and 5,000 acres respectively.
Due to the now infrequent and inert character of the ordnance use at NWSTF Boardman, there is little concern for a resultant fire hazard which may ensue from ordnance use. However, as a precaution, the stationed detachment does construct firebreaks around any impact areas and is trained in basic wildland fire suppression. The current threat of wildfire from ordnance use stems from spotting charges associated with practice bombs and tracers. The threat of wildland fire would increase should either the bombing range return to live fire or host ORARNG training. All range use would need to follow a Fire Management Plan crafted to account for such increased use.

9.2.3.6 Operational Range Clearance

The Department of Defense (DoD) established programmatic requirements to promote the long-term sustainable use of test and training ranges in DoD Directive 4715.11, “Environmental and Explosives Safety Management on Department of Defense Active and Inactive Ranges Within the United States.” This directive establishes policy for the sustainable use and management of DoD’s active and inactive (operational) ranges located within the United States. It requires the Head of each DoD Component to establish procedures necessary to ensure that its ranges comply with this Directive. The Directive requires range management plans be developed at the installation or activity level, addressing long-term sustainable use, management procedures, and record keeping.

The Navy Operational Range Clearance (ORC) Policy for Fleet Training Ranges establishes the Chief of Naval Operations (CNO) (N45) policy and requirements for performing operational range clearance on Navy Fleet training ranges in accordance with DoD 4715.11. The policy applies to all operational land-based ranges administered by the Commander, U.S. Pacific Fleet (COMPACFLT) and Commander, U.S. Atlantic Fleet (COMLANTFLT) exclusive of water ranges and small arms ranges. The policy requires an ORC Plan for each operational range programmed for continued use (DoN 2004).

ORC at NWSTF Boardman is conducted in accordance with the Navy ORC Policy. Explosive Ordnance Disposal (EOD) personnel stationed at Seaplane Base are sent TAD to NWSTF Boardman to neutralize any unspent marking charges and stockpile any inert ordnance for removal. Expended ordnance is not handled until inspected by EOD personnel.

There is the possibility for the presence of UXO within areas proposed for use by the ORARNG at NWSTF Boardman. UXO surveys would be needed in any areas where construction activities would take place, and any UXO discovered would need to be disposed of in accordance with standard procedures and the ORC Policy. ORARNG does not propose the use of explosive ordnance during the operation of the proposed ORARNG training ranges.
Therefore, ORARNG operations would not increase the potential presence of UXO at NWSTF Boardman.

9.2.3.7 Integration of Maintenance Activities

Benefits can occur when maintenance activities are integrated. The reverse also can occur, where an individual maintenance activity performed on its own may interfere with other range management activities. When maintenance activities are integrated and synchronized, there is less duplication of effort and more efficient and effective range sustainment.

The Office of the Secretary of Defense (OSD) sustainable range guidance focuses on maintenance practices to “maximize and sustain the availability of military range and land assets by resourcing for restoration and maintenance of range infrastructure and land assets.”

Further, OSD provides guidance to:
- Implement active land management practices that sustain range quality as required for military operations;
- Institute range UXO and residue management programs; and
- Institute appropriate operational range clearance programs.

9.2.4 Range Management at the NUWC Ranges

The Dabob Bay Range Complex (DBRC) is composed of the Dabob Bay operating area (OPAREA), the Hood Canal OPAREA, and interconnecting waters. The DBRC is managed in accordance with an adopted Operations and Management Plan (OMP). An EA determined that the implementation of this OMP would not cause significant impact to the environment. The DBRC contains 7.25 nm by 1.25nm of tracking area in Dabob Bay. Tracking instrumentation is installed on the bottom of the site and maintained for continual operation.

9.2.4.1 Recurring Maintenance

Recurring maintenance at the Dabob Bay OPAREA may include maintenance on such items as the seven permanently deployed short baseline arrays, which provide underwater tracking capability. There are other cables and systems located on the floor of the Dabob Bay that are used to measure acoustic/magnetic signals or act as communications and submarine warning systems during operations.

The Hood Canal OPAREA is used to determine sensor accuracy, conduct special torpedo launches, and conduct simple tests not requiring underwater tracking. Additionally, Unmanned Underwater Vehicles (UUVs) may be launched or recovered during transit tests between the Hood Canal OPAREAs and the Dabob Bay OPAREA. Two radar reflectors and other portable equipment are used to test radar range and bearing accuracy. No noise monitoring equipment or communications gear is permanently installed.
9.2.4.2 Range Refurbishment

Range refurbishment can include the installation of new range infrastructure hardware or systems, or the upgrade of an existing system. An example of refurbishment at the DBRC may include the maintenance of bottom-moored arrays and the replacement or repair of battered or damaged arrays or cables. NUWC Keyport is currently preparing an Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS) that will analyze the impacts of extending the DBRC.

The Quinault range has been mostly inactive for many years, but the aforementioned DEIS will examine a proposed extension of this range area to include all of W-237A. Though DEIS details are not available at this time, refurbishment of underwater tracking equipment may be included in the analysis.

9.3 RANGE COMPLEX SUPPORT COMMANDS

The main support commands for the NWTRC consist of CNRNW and NAVFAC NW.

9.3.1 Commander, Navy Region Northwest

CNRNW has a role in the management of the NWTRC because of their responsibility as the Navy Regional Environmental Coordinator (REC) and the administration of BOS funding (resourced through CNIC) for Class I and II property. Programming and budgeting of BOS resources for these ranges are under ADCON of CNIC. However, the Regional Commands fall under the OPCON of USFF on mission and operational issues associated with CONUS ranges.

The Regional Commands’ OPCON functions relate primarily to land-based CONUS ranges. Support functions include legal, environmental, facilities, public affairs, and comptroller support.

CNRNW serves as the Navy service component REC. A DoD REC office and a Service Component REC (who coordinates with the DoD REC) are assigned to each federal EPA region. The EPA regions covered by CNRNW are Regions VIII and X. This vast area includes the 10 states listed in Figure 9-3. Also shown in Figure 9-3 is the DoD REC office location.

The role of the DoD REC is to take the lead on issues that affect more than one Service, and to manage these issues through the Service Component RECs. The Service Component RECs have the task of managing coordination within their respective Services and delivering a Service position to the DoD REC. If consensus cannot be reached, then the DoD REC must elevate the issue to the Executive Agent for resolution.
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<td>ATTN: SFIM-AEC-WR</td>
<td>ATTN: AFCEE/CCR-S</td>
</tr>
<tr>
<td>Rocky Mountain Arsenal, Bldg 111 Commerce City, CO 80022-1748</td>
<td>333 Market Street, Suite 600 San Francisco, CA 94105-2196</td>
</tr>
<tr>
<td>Phone: 303-289-0260; DSN 749-2260</td>
<td>Phone: 415-977-8849</td>
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<tr>
<td>Fax: 303-289-0272</td>
<td>Fax: 415-977-8900</td>
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Figure 9-3. REC States and DOD REC Office Addresses

The CNRNW Regional Program Director (RPD) and Deputy REC ensure that the REC is fully informed of all Navy REC issues, and that such issues are coordinated appropriately with the DoD REC for each EPA Region (Street 2005).

The Navy Regional Commands’ REC responsibilities are a key link in the communication process between the military services, the states, and federal agencies. They have the responsibility of knowing and understanding the dynamics of state and environmental issues within the NWTRC.

The responsibilities of the Navy REC as set forth in the DOD Instruction 4715.2 are:

1. Monitor and coordinate the consistent interpretation and application of DoD environmental policies at their component’s installations within the region, and elevate issues of interest or those requiring executive agents or Environmental Safety and Occupational Health Policy Board level attention to the DoD REC with a copy to the component headquarters.
2. Serve as the focal point for information and coordination of issues related to their component’s activities in the region.
3. Provide semi-annual executive summaries of their component’s regional activities, success stories, and issues to the DoD REC with a copy to the component’s headquarters.
4. Participate in regional meetings, as necessary, with other DoD components and regulators, and monitor and coordinate training activities with the DoD REC.
9.3.2 Naval Facilities Engineering Command

NAVFAC is the execution agent and service provider for the MILCON Program within CONUS. The NWTRC is within the Area of Responsibility (AOR) of NAVFAC NW. The NWTRC command structure must work closely with NAVFAC NW to generate the requirements and associated 1391 documentation to participate in the MILCON Program.

NAVFAC NW is the service provider for the range sustainability products including RCMPs, environmental planning documents, range condition assessments, operational range clearance plans, etc. Additionally, NAVFAC NW is the service provider for facility support contracts (FSC) for standard operations and maintenance (O&M) activities, as well as shore facility environmental compliance activities. NAVFAC NW has many numerous contracts in place to assist the NWTRC with range sustainment management support and installation level O&M.

9.4 RANGE COMPLEX PLANNING

9.4.1 Fleet Enhanced Readiness Team

Enhanced Readiness Teams (ERTs) bring together operations, facility, legal, and environmental staffs to focus on preserving operations, training, testing, and other critical mission activities from encroachment caused by environmental regulations. The charter places responsibility on the ERT to develop strategies that address emergent encroachment issues and establish organizational structures that enable the Fleets to plan and implement proactive strategies. In part, the charter states:

“The ERT mission is to ensure sustained readiness by securing access to areas that allow us to meet current training requirements and to provide for the long-term needs of training with emerging weapons systems. The ERT must be both reactive to resolve existing issues, and proactive to address future encroachment impacts.”

The ERT is co-chaired by USFF and Commander, Pacific Fleet (CPF) with USFF N73 and N77 and CPF N01CE1 and N7 as their designated representatives or co-chairs. The ERT membership consists of Fleet Directors of Training, Public Affairs, Legal, Environmental, Type Commanders, Numbered Fleet Commanders and CNIC/Regions. NAVFAC, SYSCOMs, CNO N43/Navy Range Office, CNO N45, and other major commands are invited participants. The USFF/CPF ERT shall:

1. Identify, prioritize, and address readiness and sustainment issues;
2. Coordinate these issues with the Unified Commanders, OPNAV, and other Fleet Commanders; and
3. Facilitate coordination of readiness and sustainment encroachment issues that cross regional, Service, or other Federal agency boundaries.

According to the charter, “Fleet and/or Regional ERT involvement in an issue is required when the issue: 1) could have an adverse effect on our standard operating procedures, 2) may increase expenses associated with conducting standard operations/training, or 3) arises from the action(s) of an organization outside of the Fleet claimancy.

9.4.2 CNRNW Enhanced Readiness Team

The CNRNW ERT has similar goals and mission as the Fleet ERT, but implemented on a regional scale. According to the 2001 charter for the CNRNW ERT the specific responsibilities are:
1. Develop a strategic action plan to address encroachment issues within the CNRNW primary area of responsibility (AOR). This plan should include the following provisions:
   a) A process to prioritize or categorize encroachment issues impacting the AOR.
   b) A means to assess the level of impact of identified issues on training, operations, and sustained readiness.
   c) A means to identify those issues which reach, impact, or set a precedent beyond the ERT’s ARO (region, Fleet, Service).
   d) A means to provide public affairs guidance for each encroachment issue highlighting USN efforts to safeguard the environment.
   e) Form sub-committees or working groups as needed.
   f) At a minimum, meet semi-annually or as specific issues arise.
2. Forward to the next level all encroachment issues that cannot be resolved within an ERT’s AOR or that will have impact beyond an ERT’s AOR.
3. Develop a NIPRNET web page to serve as a shared database on encroachment issues under their purview. The CPF ERT will develop a model web page and assist the regional ERTs with web page construction. The CNRNW ERT will assign a point of contact for changes and updates to the web page.

The composition of the CNRNW ERT includes:
- CNRNW (PAO, Legal, Environmental, and Public Works)
- COMNAVSURFGRU PACNORWEST
- COMSUBGRU-9
- Fleet Air Support Unit PACNORWEST
- EFA Northwest
- NUWC Division Keyport
- Puget Sound Naval Shipyard
To date, the CNRNW ERT has been relatively inactive due to personnel resource constraints (i.e., ERT mandated new and additional requirements, but with no corresponding increase in personnel resources).

9.4.3 Range Complex Operations Environmental Planning Team

The purpose of the Range Complex Operations Environmental Planning Team is to conduct the TAP program’s environmental planning activities related to the NWTRC. The composition of this team will have similar representation from the RCMT with a focus on environmental planning.

Representation from NAVFAC NW’s Environmental Planning group and USFF’s Environmental Operational Support Group (N77) are the primary entities responsible for the management of the operational planning phase of the TAP program. Participation from CNRNW Environmental (N45) and Chief of Naval Operations (CNO) Environmental Readiness (N45) may be required depending on the nature of the environmental planning activity.

The NWTRC environmental planning phase was funded in FY 06. The team’s objective is to facilitate the transition from the RCMP to the execution of the environmental planning phase.

9.5 Data Collection and Data Management

Data collection and management is a critical element in managing the NWTRC and providing quantifiable information that reflects the range’s contribution to fleet readiness. Data must also be available to support investment planning to ensure that range capabilities meet current and future fleet training and testing requirements. Operational and environmental planning requires data to determine the most effective and efficient way to prioritize problems. These data are the basis of a program that provides best care and maintenance of the range’s resources and environment.

9.5.1 Tactical Training and Testing Ranges Repository and Management System (T-RAMS) and the Environmental Information Management System (EIMS)

T-RAMS was developed to meet the USFF requirement to establish a single, comprehensive, Navy-wide information management system, document storage system, and database for operational and environmental planning documents and to support operational requirements. The primary data themes within T-RAMS include:
As part of the TAP program, a large amount of data has and will continue to be collected, organized, and analyzed. The centralized T-RAMS was developed to:

- Store and manage data collected during the development of TAP products,
- Provide methods for standardizing data collection to facilitate data queries,
- Provide methods for standardizing the validation process for data collected,
- Provide methods for maintaining the currency and validity of data once they are accepted for storage,
- Provide standard rules and methods for data archival,
- Provide access to the data for further analysis or study,
- Provide an interface to the Navy's Environmental Information Management System (EIMS) to allow environmental and operational planners to access the TAP data through EIMS, and
- Store and manage data within the secured Navy/Marine Corps Intranet (NMCI).

The Navy's EIMS was validated in the year 2000. The broad requirements were to provide a single comprehensive Navy GIS-based information management system and data repository for operational and environmental planning to support operational requirements, at-sea environmental issues, range/OPAREA compliance, and encroachment concerns. EIMS development resulted in two tangible planning tools: 1) Protective Measures Assessment Protocol (PMAP) and 2) the Planning Use Case.

A description of the PMAP was provided previously in Chapter 4 of this RCMP. The original requirement for the Planning Use Case was to develop a tool that would make timely notifications to environmental planners about major exercises being planned throughout the Navy.

EIMS is a tool that greatly enables the planning required prior to the use of range complexes and OPAREAs. It specifically supports the TAP program. T-RAMS and EIMS are described in further detail in Volume I of the RCMP.

### 9.5.2 Northwest Training Range Complex Data Management

Operational data within the NWTRC must be captured to document current utilization of the ranges. These data will contribute to developing a historical record to track patterns of utilization and assist in the formulation of range investment planning.
At other range complexes, operational data is captured in such systems as: 1) Navy Scheduling System (NAVSKED), 2) Military Airspace Management System (MAMS), 3) Range Facility Management Support System (RFMSS), and 4) Target and Range Information Management System (TRIMS). However, in the NWTRC, no such systems are in use.

During the data collection process for the Northwest Training RCMP, several main data sets were not available for analysis. These included the At-Sea and Airspace Operational Exercise Data for events conducted in the NWTRC, and scheduling data. The data sets that were not available are discussed below.

More details on scheduling and data management are included in Chapter 2, but below are listed the general sources for operational data. NAS Whidbey Island is the controlling and scheduling authority for Navy training ranges, airspace and surface space (water and land). COMSUBPAC (CTG 14.9) is the controlling and scheduling authority for the Offshore subsurface water-space in WIRC. McChord Air Force Base is the controlling authority for W-93 and W-570.

NUWC Keyport is the scheduling authority for the RDT&E range sites. Surface/airborne tracking is achieved by visual observation or Global Positioning System (GPS). Analog or digital tapes provide permanent recordings of tracking data. The raw range data is sent to Keyport for analysis and production of smooth data products.

In addition to logging each individual RDT&E test feedback, range personnel use the DBRC monitor and log certain other items whenever the range is in use. This data is maintained for at least ten years and for use in studies related to sustainability and management of the range. The types of data logged include:

- The number of boats contacted to clear the range
- The number of boats contacted that come to a full stop
- The number of boats that were unable to be contacted, thus holding up range operations during their transit
- Adverse interactions with citizens
- Damage to fishing hardware/boats incurred during range operations
- List of hardware not retrieved/recovered in the DBRC for each test (including anchors, lead weights, copper wire, torpedo hardware, and other hardware)
- Marine mammal sightings.

9.5.2.1 Operational Exercise Data

Unavailable At-Sea Operational Exercise Data for events conducted in the NWTRC OPAREAs fall into three categories.

- Types of operations conducted, including:
  - Numbers of operations (training exercises),
o Area of operations,
o Types of operations correlated to a specific warfare mission area or Navy mission essential task (NMET),
o Participants and platforms utilized in each type, and
o Total number of operations on an annual basis.
• Ordnance expended, including:
o Use correlated to mission area/NMET and
o Type, quantity, and location (land, water, or ocean area) of expenditure on an annual basis.
• Anti-submarine warfare (ASW) training events involving active sonar transmission, including:
o Area of operations,
o Duration of the event,
o Participants and platforms utilized, and
o Number of ASW events on an annual basis.

Unavailable Airspace Operational Exercise Data for events conducted in the NWTRC SUA includes:

• Types of operations conducted, including:
o Types of operations correlated to a specific warfare mission area or Navy mission essential task (NMET) and
o Participants and platforms utilized in each type.
• Ordnance expended, including:
o Use correlated to mission area/NMET and
o Type, quantity, and location (land, water, or ocean area) of expenditure on an annual basis.

An information technology investment of a web-enabled operations report (OPREP) system would assist in satisfying this data collection requirement. The current OPREPs could be web-enabled so the data entry at the user level would remain the same. A few additional fields to complete the operations picture would be added to the report to facilitate in the population of the OPREP database. Over time, this database would become populated with applicable information required to develop/update the NWTRC RCMP.

### 9.5.2.2 Scheduling Data

Based on data gathered for the RCMP, special use airspace schedules are promulgated daily via email across an intranet. Notices to Airmen (NOTAMs) are published twice daily and Notices to Mariners (NOTMARs) are published as needed. A process to compare the initial published schedule to the executed schedule for the NWTRC does not exist. When an event is modified, moved, or cancelled, it would be beneficial to have a mechanism to document those changes and capture the true utilization of NWTRC. Reasons for the changes would also be captured to assist with the encroachment analysis conducted in Chapter 5. When a scheduled event was changed, the range manager would have the ability to trace the change back to the root cause.
An information technology investment of a web-enabled scheduling system would facilitate the process described above. In addition, it would assist with the exchange of scheduling data with other range complexes and FACS FAC San Diego.

9.5.2.3 Recommendations to Enhance Data Management

The two information technology recommendations identified above can be included as part of the Fleet’s Range Management System currently being researched by USFF.
10 OUTREACH

10.1 INTRODUCTION

Range sustainability requires that the Department of Defense (DoD) work with stakeholders to identify and resolve issues. The purpose of this outreach chapter is to support the overall Range Complex Management Plan (RCMP) by recommending targeted outreach strategies and approaches that address encroachment issues and support sustainment strategies for the Northwest Training Range Complex (NWTRC). This chapter encompasses outreach to key stakeholders who can have an impact on encroachment and sustainability at training ranges, and whose decisions may positively or negatively affect the ability to use those ranges. The recommended outreach strategies and approaches provide methods, messages, and tools to address the future needs and challenges of NWTRC and are designed to support its strategic vision and investments. Implementation of these recommendations will require coordination among all responsible for management of the range complex.

It is not the purpose of this outreach chapter to serve as a comprehensive public affairs or stakeholder relations plan for the range complex or for individual Installations and facilities. Ongoing outreach efforts beyond those recommended here will continue, as appropriate, to support other goals and issues of the region and the facilities that comprise the range complex.

Outreach is defined as the process of communicating the military mission and developing and maintaining stakeholder partnerships to ensure the continuation of mission-essential operations. Outreach is not only mandated by DoD Directive 3200.15, Sustainment of Ranges and Operating Areas (OPAREAS), January 2003, it is highly recommended to maintain positive partnerships between the range and its stakeholders. According to the Directive, ranges should:

- Institute multi-tiered coordination and outreach programs that promote sustainment of ranges and OPAREAS, and resolution of encroachment issues that promote understanding of the readiness, safety, environmental, and economic considerations surrounding the use and management of ranges and OPAREAS.
- Ensure consideration of stakeholder interests in DoD range related decisions.
- Improve communications and enter into cooperative agreements and partnerships with other Federal agencies; state, Tribal, and local governments; and nongovernmental organizations (NGOs) with expertise or interest in DoD
ranges, OPAREAs, and airspace, to further sustainment objectives.

In a June 2003 memorandum entitled *Guidance for Fiscal Years 2006 – 2011 Sustainable Ranges Programs* from the Under Secretary of Defense, the Services were directed to “implement sustainment outreach efforts that will improve public understanding of DoD requirements for training and testing and support coalition building and partnering on range sustainment issues important to DoD readiness.” The Services are to:

- Conduct local community involvement at all ranges and associated Installations.
- Develop Servicewide programs to provide common community involvement information and tools to all Installation commanders and staff.
- Establish local Points of Contact (POCs) (non-Public Affairs) for range sustainment.

Chapter 10 describes existing and proposed outreach activities as well as suggested activity and results-based outreach metrics for NWTRC. The intent of this chapter is to detail how to create and maintain stakeholder partnerships through regular, proactive dialogue and information exchange. For the purpose of this chapter, “stakeholder” is a broad term used to encompass individuals and/or groups in the following categories: elected officials, regulatory and government agencies, community and business groups, NGOs, Native American groups, and the media.

### 10.2 Demographics and Electoral Representation

This section provides a brief overview of demographic characteristics of the areas surrounding the naval facilities and ranges covered in this RCMP (Offshore, Inshore, Naval Undersea Warfare Center [NUWC], and Explosive Ordnance Disposal [EOD]/Navy Special Warfare [NSW] ranges). This demographic summary helps provide a background and context for the outreach strategies and recommendations.

#### 10.2.1 Economic Contribution

In July 2004, the Washington State Office of Financial Management conducted a study of the economic contribution of military bases and activities to the state ([http://www.ofm.wa.gov/economy/military/index.htm](http://www.ofm.wa.gov/economy/military/index.htm)). The study found that military bases contribute significantly to the state’s economic activity. In Island County, 88 percent of the economic activity comes from military bases. Other counties with large percentages of economic activity from bases include Kitsap (54 percent) and Pierce (30 percent). Spokane and Snohomish counties receive 9 and 5 percent, respectively, of their economic activity from military bases.
Other findings in the report include data that sales by Washington companies to local bases total $528 million per year. In King County alone, businesses sold $174 million to bases statewide. Forty-four companies in the state derive 100 percent of their business from military bases, and 30 others generate more than half of their business from the bases.

10.2.2 Island County, WA

Naval Air Station Whidbey Island (NASWI) is situated in northwest Washington on Whidbey Island, which is one of two islands comprising Island County – Camano Island and Whidbey Island. It is located approximately three miles north of the city of Oak Harbor and near the town of Coupeville.

Eighty-one percent of the Island County population (71,558) resides on Whidbey Island. As mentioned, nearly 88 percent of economic activity in Island County is directly or indirectly linked to the Navy’s presence. NAS Whidbey Island’s net direct impact in 2003 amounted $494.5 million, of which $399.1 million was in the form of payroll earnings of both civilian and military workers.

10.2.3 Kitsap County, WA

Kitsap County, home to NUWC Keyport, Naval Base (NB) Kitsap-Bangor, NB Kitsap-Bremerton, and NUWC Dabob Bay/Hood Canal, has a population of 231,969 with the following ethnicity breakdown: Caucasians (84.3 percent), Black or African American (2.9 percent), American Indian and Alaska Native (1.6 percent), Asian (4.4 percent), Native Hawaiian and Other Pacific Islander (0.8 percent), and other races (1.4 percent). Hispanic or Latino (of any race) account for 4.1 percent of the population. Over 90 percent of the population above 25 years of age has a high school degree. The median household income is $46,840, the per capita income is $22,317, and 8.8 percent of the population lives below the poverty line. The educational, health, and social services industry is the largest employer (19.7 percent), followed by retail trade (12.6 percent), and manufacturing (11 percent).

The Port Madison Indian Reservation is located on the Kitsap Peninsula, on the waterfront across the Puget Sound from Seattle and Keyport. The reservation is home to the Suquamish people, a fishing tribe whose leader was Chief Seattle, after whom the city took its name. The Tribe’s 1996 membership roster listed over 780 members.

According to the Washington State Office of Financial Management, 54 percent of all economic activity in Kitsap County is directly or indirectly linked to personnel and procurements at naval bases. On-base employment of 27,375 constitutes about 36 percent of total employment in Kitsap County.
10.2.3.1 City of Silverdale, WA

Silverdale is home to 15,816 people over 6.9 square miles. The majority of Silverdale’s population is Caucasian (74.9 percent), followed by Filipino (8.6 percent), Black or African American (3.5 percent), American Indian (1.9 percent), and Native Hawaiian or Pacific Islander (1.1 percent). The median household income in 2000 was $48,164, and 5.9 percent of the population is unemployed.

Silverdale attracts visitors from the region due to its large mall and other shopping opportunities, and retail trade accounts for 15.2 percent of the county’s economy. Other industries include education, health, and social services (21.7 percent); public administration (12.1 percent); arts, entertainment, recreation, accommodation, and food service, (11.1 percent); and professional, scientific, management, administrative, and waste management services (10.2 percent).

10.2.3.2 City of Poulsbo, WA

The city of Poulsbo has a population of 7,450 and lies on Liberty Bay, a fjord of Puget Sound. Poulsbo is a popular boating and tourist destination, particularly in the summer. It is especially known for its Scandinavian heritage and proximity to the Olympic Mountains to the west. Poulsbo is governed by a mayor and seven council members (http://www.cityofpoulsbo.com/).

10.2.4 Snohomish County, WA

Snohomish County, like other counties discussed previously, is not very ethnically diverse. Of the 606,024 people living in the County, 85.6 percent are Caucasian. Asians and Hispanics are the next largest ethnic groups at 5.8 and 4.7 percent respectively. Of the 25 years and over population, 89.2 percent have high school degrees. The median household income is $53,060, the per capita income is $23,417, and 6.9 percent of the population lives below the poverty line. Manufacturing (17.7 percent), educational, health and social services (16.3 percent), and retail sectors (13 percent) contribute significantly to local employment and earnings.

Naval Station Everett, located in Snohomish County, contributes directly or indirectly to five percent of economic activity in the County. On base employment of 4,517 constitutes about two percent of total County employment.

10.2.5 Jefferson County, WA

Jefferson County borders the Dabob Bay Range Complex, Offshore Areas W-237 (A-H, J), Olympic MOA (A/B), NUWC Quinault Range, and includes Naval Magazine Indian Island. Jefferson County has a primarily Caucasian population (92.2 percent) of 25,953. A small percentage of American Indians (2.3 percent) and
Hispanics (2.1 percent) live in Jefferson County. Over 91 percent of the people 25 years of age and over have high school degrees. The median household income is $37,869, the per capita income is $22,211, and 11.3 percent of the population lives below the poverty line.

The educational, health, and social services industry is the largest employer in Jefferson County (18.3 percent), followed by arts and entertainment (12.7 percent), and construction and manufacturing (10.5 and 10.4 percent respectively). Forest resources represent the principal component of the local economy. The Federal government has significant roles in Jefferson County for national defense, forestry, and recreation.

In the mid-19th century, American Indian tribes in what is now Jefferson County included the Chemakum (or Chimacum), Hoh (a group of the Quileute), Klallam (or Clallam), Quinault, and Twana (the Kilcid band—Anglicized as Quilcene) (Jefferson County History [JCH] 2003). Local tribes had populations of no more than a few hundred. Currently, there is only one reservation (created in 1893) in Jefferson County. The Hoh Reservation occupies 640 acres on the Pacific Ocean at the mouth of the Hoh River. The Jamestown S'Klallam Tribe presently has 526 enrolled tribal members. Although a few members (13 percent) live outside of the state, most live on the Olympic Peninsula, within Jefferson and Clallam Counties. Some tribal members still live in Jamestown, but much of the land has been sold over the years.

### 10.2.5.1 City of Port Townsend, WA

The city of Port Townsend is in Jefferson County and is the administrative center or county seat for the county. It is primarily known for its independent boat builders and other marine industries. All marine traffic entering and leaving Puget Sound goes past Port Townsend.

Approximately 8,334 people reside in Port Townsend (Census 2000), comprised of 3,917 households and 2,201 families. The population density in 2000 was 1,191.8 people per square mile and 4,250 housing units, at an average density of 607.8 housing units per square mile. The average household size was 2.09 and the average family size was 2.67.

Port Townsend residents consist of 93.3 percent Caucasian, 0.6 percent African American, 1.3 percent Native American, 1.3 percent Asian, 0.2 percent Pacific Islander, 0.9 percent from other races, and 2.5 percent from two or more races. In addition, 2.3 percent of the population was Hispanic or Latino of any race (Census 2000).

Port Townsend operates with a city council/manager form of government. The city council is made up of seven elected officials.
10.2.6 Clallam County, WA

Clallam County is a neighbor to Offshore Areas W-237 (A-H, J), Chinook MOA (A/B), Olympic MOA (A/B), and NUWC Quinault Range and has a population of 67,867 over 1,739 square miles. The majority of the county (89.1 percent) is Caucasian, with American Indians or Alaska Natives making up 5.1 percent and Asians making up 1.1 percent. In addition, 3.4 percent identify as Hispanic. Among citizens 25 years or older, 85.5 percent are high school graduates. The median household income is $36,449, and per capita income is $19,517 (USCB 2004). Clallam County is governed by a three-member board of commissioners.

Clallam County is home to the Makah Indian Nation, and the Neah Bay fishing village which serves as the center for Makah cultural and seafaring economy events. The new Neah Bay Marina harbors over 200 commercial and sport fishing vessels and other watercraft. Further south, the Ozette archaeological site provides information on early Makah life. Clallam County is also home to the Quileute (population 381) and Lower Elwha (population 137) reservations.

10.2.7 Grays Harbor County, WA

Grays Harbor County is a neighbor to Offshore Areas W-237 (A-H, J), Olympic MOA (A/B), and NUWC Quinault Range. Grays Harbor County is located on the western portion of the Olympic Peninsula. Grays Harbor County’s 2004 population was approximately 70,338 (UCSB 2004). The majority of the county is Caucasian (88.3 percent). The next largest ethnic groups are Asian (4.7 percent) and Native Hawaiian or Pacific Islander (1.2 percent). Additionally, 4.8 percent identified as Hispanic. Of residents 25 years old or older, 81.1 percent are high school graduates. The median household income is $34,160, per capita income is $16,799 and 16.1 percent of the population lives below the poverty line (USCB 2004).

At the entrance to Grays Harbor is Ocean Shores. It has been voted Washington’s top family vacation spot for the last 5 years (Grays Harbor Economic Development Council 2003). Ocean Shores has a resident population of 3,800 but receives nearly 2.5 million visitors each year. To the south of Grays Harbor is Westport, which harbors much of the county’s fishing fleet. Fifteen miles inland, where the Chehalis River flows into Grays Harbor, are the contiguous cities of Aberdeen, Hoquiam, and Comopolis. These cities form the commercial and industrial core of the county, and almost half of Grays Harbor residents live here. The Olympic National Forest covers a majority of the county, and the Olympic Coast National Marine Sanctuary lies offshore from the county.

The 189,621-acre Quinault Reservation is located in northwest Grays Harbor County. The Quinault Indian Nation consists of the Quinault
tribe, plus the descendents of five other coastal tribes: the Hoh, Quileute, Chehalis, Chinook, and Cowlitz. The town of Taholah is the center for the Quinault Indian Nation.

10.2.8 Whatcom County, WA

Whatcom County is home to the Darrington OPAREA. Its population is approximately 180,167 over 2,120 square miles. The majority of the county is Caucasian (88.4 percent). The next largest ethnic groups are American Indian or Alaskan Native and Asian, both at 2.8 percent. In addition, 5.2 percent identify as Hispanic. Of residents at least 25 years old, 87.5 percent are high school graduates. The median household income is $40,005, per capita income is $20,025, and 14.2 percent of the population lives below the poverty line.

Whatcom County encompasses the cities and towns of Bellingham, Blaine, Everson, Ferndale, Lynden, Nooksack, and Sumas, plus many unincorporated communities. Whatcom is a charter county, which means its legislative and administrative functions are separate. The county is governed by an elected, part-time, seven-member city council and a full-time elected county executive. The County Charter also grants county citizens the right of initiative and referendum.

The Lummi Indian Reservation is located in Whatcom County, seven miles northwest of Bellingham. The reservation is a five-mile long peninsula covering approximately 12,000 acres with a population of 3,147. The tribal economy is driven by fishing, a restaurant, a marina complex, and a fish-processing plant at Gooseberry Point. The reservation is governed by an 11-member council, which meets at least once a year. The Nooksack Indian Reservation is also located in Whatcom County. It encompasses 2,500 acres in the town of Deming and has a population of 556 (WA State Office of Financial Management, 1990 Census Profiles).

10.2.9 Skagit County, WA

Skagit County is home to Darrington OPAREA. Its population is 111,064 over 1,735 square miles. The county, ethnically, is mostly Caucasian (86.5 percent), followed by American Indian or Alaska Native (1.9 percent) and Asian (1.5 percent). In addition, 11.2 percent identify as Hispanic. Of residents at least 25 years old, 84 percent are high school graduates. The median household income is $42,381, per capita income is $21,256 and 11.1 percent of the population lives below the poverty line. Skagit County is governed by a three-member Board of Commissioners.

Skagit County is home to two American Indian reservations. The Swinomish Reservation is located on Fidalgo Island near LaConner. The reservation has a population of 2,282 and is governed by the
eleven-member Swinomish Indian Senate. The Upper Skagit Reservation has a population of 180 and is governed by a seven-member Tribal Council.

10.2.10 Snohomish County, WA

Snohomish County, like others discussed previously, is not very ethnically diverse. Of the 606,024 people living in the County, 85.6 percent are Caucasian. Asians and Hispanics are the next largest ethnic groups at 5.8 and 4.7 percent, respectively. Of the population at least 25 years old, 89.2 percent have high school degrees. The median household income is $53,060, the per capita income is $23,417, and 6.9 percent of the population lives below the poverty line. Manufacturing (17.7 percent); educational, health and social services (16.3 percent); and retail sectors (13 percent) contribute significantly to local employment and earnings.

Naval Station Everett, located in Snohomish County, contributes directly or indirectly to five percent of economic activity in the County. On-base employment of 4,517 constitutes about two percent of total County employment.

Snohomish County is home to the Tulalip Tribe Reservation, which encompasses 22,000 acres near Marysville and the Snohomish River. The reservation is shared by members from the Snohomish, Snoqualmie, Skagit, Suiattle, Samish, and Stillaguamish tribes, along with allied bands living in the area. In 2004, the tribe reported 3,611 members living on the reservation.

10.2.11 Pierce County, WA

Pierce County is home to parts of NUWC Keyport Range. Pierce County encompasses 24 cities and towns, with a population of 745,411 over 1,679 square miles. Ethnically, the County is 78.4 percent Caucasian, 7 percent Black or African American, 5.1 percent Asian, and 1.4 percent American Indian or Alaska Native. Additionally, 5.5 percent identify as Hispanic. Of the population 25 years old and older, 86.9 percent are high school graduates. The median household income is $45,204, per capita income is $20,948, and 10.5% of the population lives below the poverty line (USCB 2004). Pierce County is governed by a seven-member county council.

Pierce County produces 50 percent of the country’s rhubarb, and its 79 other agricultural products contribute a large percentage to the areas economy. The Port of Tacoma makes the area a major trade and service center. The county also participates in some manufacturing.

Pierce County is home to 32,406 members of the Puyallup Tribe of Indians. The tribe is governed by a seven-member council. The
Tribe developed and runs Puyallup International Inc., which operates Chinook Landing marina, the Bingo Palace, and Emerald Queen Casino.

10.2.12 **Okanogan County, WA**

Okanogan County houses Okanogan Military Operating Areas (A/B/C). It has a population of 39,444 over 5,268 square miles. The largest ethnic group is Caucasian (75.3 percent), followed by American Indian or Alaska Native (11.5 percent). In addition, 14.4 percent identify as Hispanic. Of residents 25 years old or older, 76.6 percent are high school graduates. The median household income is $29,726, per capita income $14,900, and 21.3 percent of the population lives below the poverty line. Okanogan County is governed by three elected Commissioners.

The Colville Reservation encompasses 1.4 million acres (2,100 square miles) of Okanogan and nearby Ferry Counties. This reservation is composed of twelve confederated tribes: Wenatchee, Nespelem, Moses-Columbia, Methow, Colville, Okanogan, Palus, San Poil, Entiat, Chelan, Nez Perce, and Lake. Total tribal enrollment is 8,700.

10.2.13 **Ferry County, WA**

Ferry County houses Roosevelt Military Operating Areas (A/B). Its population is 7,565 over 2,204 square miles. The majority of the population is Caucasian (75.5 percent) or American Indian or Alaska Native (18.3 percent). 2.8 percent identify as Hispanic. Of residents 25 years old or older, 82.7 percent have graduated high school. The median household income is $30,388, per capita income is $15,019, and 19 percent of the population lives below the poverty line. Lumber, mining, and agriculture are the county’s major economic activities. Ferry County is governed by three commissioners.

The Colville Reservation encompasses 1.4 million acres (2,100 square miles) of Ferry and adjacent Okanogan Counties. See Section 10.2.12 for more information.

10.2.14 **Stevens County, WA**

Stevens County is home to Roosevelt Military Operating Areas (A/B). The county’s population is 41,310 over 2,478 square miles. The majority of the population (90 percent) is Caucasian, followed by American Indian or Alaska Native (5.7 percent). In addition, 1.8 percent identify as Hispanic. Of the population at least 25 years old, 85.4 percent have graduated high school. The median household income is $34,673, per capita income $15,895 and 15.9 percent of the population lives below the poverty line (USCB 2004). Stevens County is governed by three commissioners.
Stevens County is home to the Spokane Indian Reservation. The reservation spans 157,000 acres and, in 1990, had a population of 1,502.

10.2.15 Pend Oreille County, WA

Pend Oreille County houses Roosevelt Military Operating Area (A/B). It has a population of 12,474 over 1,400 square miles. Most of the population is Caucasian (93.5 percent), followed by American Indian or Alaska Native (2.9 percent). Additionally, 2.1 percent identify as Hispanic. Of residents at least 25 years old, 81.0 percent are high school graduates. The median household income is $31,677, per capita income is $15,731, and 18.1 percent of the population lives below the poverty line (USCB 2004).

Newport is the county seat of Pend Oreille County. The county otherwise consists of four incorporated towns (Cusick, Ione, Metaline, and Metaline Falls) and two unincorporated towns (Usk and Dalkena). Pend Oreille County is governed by a three county commissioners.

Approximately 100 Kalispel Indians live on the Kalispel Indian Reservation in Pend Oreille County.

10.2.16 Lincoln County, OR

Lincoln County is adjacent to Offshore Area W-570. Lincoln County has a population of 44,479 over 980 square miles. The county has a primarily Caucasian population (90.6 percent), with a smaller population of American Indians or Alaska Natives (3.1 percent). Almost 5 percent of the county’s population identifies as Hispanic. The median income is $32,769, per capita income is $18,692, and 13.9 percent of the population lives below the poverty line. Lincoln County incorporates the cities of Depoe Bay, Lincoln City, Newport, Siletz, Toledo, Waldport, and Yachats.

Lincoln County’s economy consists of tourism, government, services/retail, forest products, and fishing. In addition, Lincoln County is one of the most popular visitor destinations on the Oregon Coast. Specifically, Depoe Bay is known as the “whale watching capital of the world.”

The town of Siletz is home to the Confederated Tribes of Siletz Indians Reservation. The reservation is home to 4,094 members on 3,666 acres. The tribe manages water, timber, and fish resources.

10.2.17 Douglas County, OR

Douglas County is adjacent to Offshore Area W-93. The population of the county is 103,152 over 5,037 square miles. The county’s population is predominately Caucasian (93.9 percent), with a small
population of American Indians or Alaska Natives (1.5 percent). Additionally, 3.3 percent identifies as Hispanic. Of residents 25 years old or older, 81 percent are high school graduates. The median household income is $33,223, per capita income is $16,581, and 13.1 percent of the county’s population lives below the poverty line.

Douglas County is governed by a three-member Board of Commissioners.

10.2.18 Coos County, OR

Coos County is adjacent to Offshore Area W-93 (A/B). Coos County has a population of 63,739 over 1,600 square miles. The population is mostly Caucasian (92 percent), with a small population of American Indians or Alaska Natives (2.4 percent). Additionally, 3.4 percent identify as Hispanic. Of residents at least 25 years old, 81.6 percent have graduated high school. The median household income is $34,542, per capita income is $17,547, and 15 percent of the population lives below the poverty line. Coos County is governed by a three-member Board of Commissioners.

The Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians consist of 754 members; a reservation is currently being planned in Coos County. The Coquille Indian Tribe has a population of 819 and lives on a 6,512-acre reservation.

10.2.19 Curry County, OR

Curry County is adjacent to W-93 (A/B). Curry County comprises the cities of Agness, Brookings, Carpenterville, Gold Beach, Harbor, Hunter Creek, Langlois, Nesika Beach, Ophir, Pistol River, Port Orford, and Wedderburn. It has a population of 22,100 over an area of 1,627 square miles. The population is predominately Caucasian (92.9 percent), with a smaller population of American Indians or Alaska Natives (2.1 percent). In addition, 3.6 percent identifies as Hispanic. Of residents at least 25 years old, 81.7 percent are high school graduates. The median household income is $30,117, per capita income is $18,138, and 12.2 percent of the population lives below the poverty line. The county is governed by a three-member Board of Commissioners.

10.2.20 Morrow County, OR

Morrow County, Oregon is located in central Oregon at the border with Washington and is home to Boardman Military Operating Area, R-5701 (A-E), R-5706, and Naval Weapons Systems Training Facility (NWSTF) Boardman. The county has a population of 11,681 over 2,032 square miles. Five main communities make up Morrow County: Boardman, Irrigon, Ione, Lexington, and Heppner (the county seat). The county is predominately Caucasian (76.3 percent), with a smaller population of American Indians or Alaska Natives (1.4 percent). Notably, 19.5 percent of the population
identifies as two or more races, and 24.4 percent identifies as Hispanic. Of residents 25 years old or older, 74.1 percent are high school graduates. The median household income is $37,521, per capita income is $15,802, and 14.8 percent of the population lives below the poverty line (USCB 2004).

Morrow County’s major industries include timber, energy, food processing, and agricultural production of corn, potatoes, watermelons, grapes, wheat, canola, sheep, cattle, and dairy products. The county consists agriculturally of irrigated farming in the north; wheat fields and cattle ranches in the center, and timber products in the south (Oregon Blue Book 2006).

Points of interest in Morrow County include the Blue Mountains, Umatilla National Forest, parts of the Oregon Trail, and sections of the Lewis and Clark Route.

10.2.21 Del Norte County, CA

Del Norte County is adjacent to Offshore Area W-93 (B). It has a population of 28,351 over 1,008 square miles. The county is 78.9 percent Caucasian, 6.4 percent American Indian or Alaska Native, 4.3 percent Black or African American, and 2.3 percent Asian. Additionally, 13.9 percent identifies as Hispanic. Of residents 25 years old or older, 71.6 percent are high school graduates. The median household income is $29,642; per capita income is $14,573, and 20.2 percent of the population lives below the poverty line. Del Norte County is governed by a five-member Board of Supervisors.

Del Norte is home to several rancherias, or small areas of land set aside as American Indian settlements in California. Around 77 Tolowa Indians live on the 105-acre Elk Valley Rancheria near Crescent City and run the Elk Valley Casino. Around 36 Yurok Indians live on the Resighini Rancheria near Klamath. The Smith River Rancheria of Tolowa Indians comprises 186 acres near the town of Smith River. Around 240 members of their 900-person group live on this reservation, which supports a casino, a medical and dental facility, housing for the elderly and handicapped, an elderly nutrition center, a Headstart facility, tribal housing, and a tribal cemetery. Additionally, a section of the Yurok reservation lies within Del Norte County (see Humboldt County).

10.2.22 Humboldt County, CA

Humboldt County is adjacent to Offshore Area W-93 (B). It spans 3,573 square miles and has population of 128,529. The county is predominately Caucasian (84.7 percent), with American Indian or Alaska Native (5.7 percent) and Asian (1.7 percent) making up the next largest groups. In addition, 6.5 percent identify as Hispanic. Of residents 25 years old or older, 84.9 percent are high school graduates. The median household income is $31,226, per capita
income is $17,203, and 19.5 percent of the population lives below the poverty line (USCB 2004). Most of the economy of Humboldt County is driven by education, health, and social services (26.6%) and retail (12.5%). Humboldt County is governed by a five-member Board of Supervisors.

Like Del Norte County, Humboldt County contains several Rancherias. Members of the Wiyot, Yurok, and Hupa groups share the 31-acre Blue Lake Rancheria 12 miles north of Eureka. Yurok and Tolowa Indians (24 individuals) live on the 20-acre Big Lagoon Rancheria in Trinidad. The Bear River Band of the Rohnerville Rancheria is located near Eureka, and is shared by the Wiyot and Mattole Indians. The area is 60 acres and is home to approximately 96 persons. The Table Bluff Rancheria comprises 102 acres and a population of 97 Wiyot Indians near Loleta. The Trinidad Rancheria (also known as the Cher-ae Heights Indian Community of the Trinidad Rancheria) of Yurok and Wiyot Indians comprises 47.2 acres and 73 persons, located 25 miles north of Eureka. About 154 other members of the Yurok and Wiyot tribes live off the rancheria but in the vicinity.

In addition, the Hoopa (or Hupa) Valley Indian Reservation is located 64 miles east of Eureka. Over ¾ of the reservation is designated as commercial timberland. The reservation’s total area is 85,446 (144 sq. mi.) and the population is 2,633. At the heart of the Hoopa Valley is the ancient village of Takimildin, which is the “center of the world” for Hoopa people.

Some of the 4,800 members of the Karuk Tribe live in the Orleans district of Humboldt County. The Yurok reservation is located in Eureka and is home to 1,103 Yurok individuals on 56,585 acres in Humboldt and Del Norte Counties.

10.2.23 Kodiak Island Borough, AK

Kodiak Island Borough is home to the Kodiak Island Cold Weather Training Facility. The Borough encompasses the entire Kodiak Island archipelago, which extends about 177 miles long and 67 miles across. It has a population of 13,276 over 6,560 square miles, resulting a population density of just 2.1 persons per square mile. This area has the lowest percentage of Caucasians (59.7 percent) of any area studied in this RCMP. The next largest group is Asian (16 percent), followed by American Indian or Alaska Native (14.6 percent), and Black or African American (1 percent). Additionally, 6.1 percent identifies as Hispanic. Of residents 25 years old or older, 85.4 percent are high school graduates. The median household income is $54,636, per capita income is $22,195, and 6.6% of the population lives below the poverty line. Kodiak Island Borough is governed by an elected mayor and a seven-member assembly.
While no Federally-recognized Native American reservations exist within the Borough, the Kodiak Island archipelago is home to about 2,500 Alutiiq Native Alaskans. The Alutiiq live in the City of Kodiak and in six small villages along the coast: Ouzinkie, Port Lions, Larsen Bay, Karluk, Akhiok, and Old Harbor. Today, the Alutiiq of the Kodiak Island Borough are shareholders of Alutiiq LLC, Koniag, Inc., and six village-level corporations.

10.2.24 Elected Officials

The state of Washington is represented in the U.S. Senate by two elected senators and in the U.S. House of Representatives by nine elected congressional district representatives. The OPAREAs of the NWTRC are within the jurisdiction of WA U.S. Congressional districts 1, 2, and 5-9; State Senate districts 7, 10, and 24; and State Assembly districts 7, 10, and 24.

The state of Oregon is represented in the U.S. Senate by two elected senators and in the U.S. House of Representatives by five elected congressional district representatives. The OPAREAs of the NWTRC are within the jurisdiction of OR U.S. Congressional districts 2, 4, and 5; State Senate districts 1, 5, and 29; and State Assembly districts 1, 9, and 57.

The state of California is represented in the U.S. Senate by two elected senators and in the U.S. House of Representatives by 53 elected Congressional district representatives. The OPAREAs of the NWTRC are within the jurisdiction of CA U.S. Congressional district 1, State Senate districts 2 and 4, and State Assembly district 1.

The state of Alaska is represented in the U.S. Senate by two elected senators and in the U.S. House of Representatives by one elected congressional district representative. The OPAREAs of the NWTRC are within the jurisdiction of AK U.S. Congressional district 1, State Senate district R, and State Assembly district 36.

The state of Nevada is represented in the U.S. Senate by two elected senators and in the U.S. House of Representatives by three elected congressional district representatives. The OPAREAs of the NWTRC are within the jurisdiction of NV U.S. Congressional district 2, State Senate Central Nevada Senatorial District, and State Assembly district 35.

Maps of U.S. Congressional districts and statewide legislative districts are provided in Appendix G: Supplemental Outreach Information.

Within the Federal and state legislative bodies in Washington, Oregon, California, Alaska, and Nevada, there are numerous
committees with interest in or that could directly impact naval
operations at the air station. Among these are:

**Federal**
- Senate and House Armed Services Committees
- Senate and House Appropriations Committees
- Senate Energy and Natural Resources Committee
- House Resources Committee
- Senate Environment and Public Works Committee
- House Transportation and Infrastructure Committee

**Washington State**
- House Economic Development, Agriculture, and Trade Committee
- House Select Committee on Hood Canal Committee
- House Natural Resources, Ecology, and Parks Committee
- Senate Natural Resources, Ocean, and Recreation Committee
- Senate Water, Energy, and Environment Committee

**Oregon**
- Senate Economic Development Agency Oversight Committee
- Senate Natural Resources and Alternative Energy Committee
- Senate Public Health Committee
- House Agriculture and Natural Resources Committee
- House Land Use Committee
- House Transportation Committee

**California**
- Senate Agriculture Committee
- Senate Appropriations Committee
- Senate Energy, Utilities, and Communications Committee
- Senate Environmental Quality Committee
  - Subcommittee on Toxic Materials
- Senate Natural Resources and Water Committee
- Senate Transportation and Housing Committee
- Assembly Committee on Agriculture
- Assembly Committee on Appropriations
- Assembly Committee on Environmental Safety and Toxic Materials
- Assembly Committee on Natural Resources
- Assembly Committee on Transportation
- Assembly Committee on Water, Parks, and Wildlife

**Alaska**
- Senate and House Community and Regional Affairs Committees
- Senate and House Resources Committees
10.3 HISTORICAL REVIEW OF OUTREACH AND INVOLVEMENT

10.3.1 Analysis of Current Stakeholder Relations

For the purposes of this RCMP, outreach and stakeholder relations analyses and opportunities are tied directly to existing or potential issues of encroachment and/or sustainability of the NWTRC. As noted in Chapter 5, encroachment issues exist at varying levels in the complex, and include marine mammal and marine resource issues associated with use of ocean space, sonar, and ordnance. To a limited extent, issues associated with airspace, jet noise, and urban encroachment also exist. Connected to these issues is a similarly diverse set of stakeholders, including:

- Regulatory agencies with responsibilities impacting or impacted by the activities of the Navy in the NWTRC;
- Elected officials who must balance the interests of constituents in support of Navy presence and the associated benefits, with constituents opposed to Navy activity;
- Local community members and officials supportive of the military and its contribution to the local economy, yet impacted by Navy activities, such as noise;
- Environmental groups with concerns related to marine mammals and marine resources, habitat, species protection, sonar use, and mitigation measures;
- Native American tribal and nation interests;
- Commercial and recreational interests associated with fishing, boating, and shipping; and
• Commercial and private airspace interests.

A list of key stakeholders is provided in Appendix G: Supplemental Outreach Information.

### 10.3.1.1 Elected Officials

At the Federal level, legislators have an interest in both the contributions that Navy presence brings to their state, as well as the concerns among their constituents related to naval activities. Around the NWTRC, there is not a high level of concern among the public about land-based Navy activity. Most issues are related to at-sea activity and potential environmental impacts.

NASWI regularly offers base tours to the 2nd District Congressional Representative and invitations for base tours are sent out to new congressional representatives, as appropriate. The Navy provides visiting elected officials with a Command Brief, developed to inform elected officials of Navy activities and encroachment concerns, and to promote the Navy’s environmental stewardship and management programs. Congressional representatives are also kept fully apprised of military construction projects and Base Realignment and Closure (BRAC) issues.

NUWC Keyport and regional personnel invite elected officials to special events, tours, and visits. Commander, Navy Region Northwest (CNRNW) personnel usually take the lead for elected official visits, which occur two to fours times per year. The District 6 Congressional Representative has been supportive of military activities and actively promotes NUWC Keyport activities, which aided in securing funding for the Naval Sea Systems Command (NAVSEA) National Unmanned Undersea Vehicle Test and Evaluation Center. The NAVSEA Keyport Range Complex Extension Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS) also generated interest from congressional staff, senators from Washington, and the House and Senate Armed Services Committees.

With respect to local and regional land use compatibility conflicts, attempts are being made to schedule regular meetings between the Admiral of the Northwest Region and county commissioners to discuss the issues. The NASWI Community Planning and Liaison Office (CPLO) receives notices regarding land use changes and permits and participates in the Citizen’s Comprehensive Task Force. NASWI is also on Island County’s “checklist” for land use planning changes.

### 10.3.1.2 Regulatory and Government Agencies

The NWTRC is monitored and/or regulated by several state and Federal agencies, including those that are responsible for air space, environmental issues, and at-sea activity.
Environmental Compliance

As part of the Navy’s natural resource management program, NASWI Environmental Division prepares and regularly updates an Integrated Natural Resource Management Plan (INRMP). The primary goal of the INRMP is to “integrate management activities with all programs and mission requirements, while sustaining, promoting and restoring the health and integrity of NASWI ecosystems.” The INRMP is updated every five years. In the regulatory review of the INRMP document, the Navy coordinates with U.S. Fish & Wildlife Service (USFWS), National Marine Fisheries Service (NMFS) (endangered species issues), and the Washington State Department of Fish and Wildlife (DFW). There is some contact with the Oregon State Department of Fish and Wildlife, which provides survey assistance and comments on the plan.

Under the TAP program umbrella, a Range Sustainability Environmental Program Assessment (RSEPA) is being developed. The RSEPA was initiated by the Navy partly in response to feedback received from regulators. The program’s goal is to maintain range sustainability and dedication to environmental compliance and stewardship. As a part of the program, range complex personnel are currently working closely with regulators to sample soil and groundwater and identify environmental contamination sources to comply with groundwater remediation programs.

Formal regulatory agency consultation is not regular or frequent, but is rather determined on an event-by-event or project-by-project basis (i.e., for training activities that may have environmental impacts); regulatory communication and coordination takes place on a more frequent basis. During the scoping period for the NAVSEA Keyport Range Complex Extension EIS/OEIS, briefings were provided to Federal and state regulatory agencies, including USFWS, NMFS, Washington State Department of Ecology (DE), and DFW. Native American tribes and nations also received briefings. Several public open houses were held.

At NWSTF Boardman, there is regulatory oversight by USEPA, Region X and the Oregon State Department for Environmental Quality (DEQ) on groundwater issues. Groundwater and soil sampling at NWSTF Boardman occurred between May 16 and June 24, 2005 as part of the Comprehensive Range Evaluation (CRE) Phase 1 to determine if there had been an off-range release of munitions constituents. Groundwater and soil sampling tested for nitrates, perchlorate, and other contaminants. Perchlorate detections at the eastern and northern border wells were consistent with the range of perchlorate contamination found throughout the Lower Umatilla Basin Groundwater Management Area; no soil samples indicated perchlorate contamination. The major findings of the CRE included: 1) Data indicates that no off-range release occurred and 2) CRE Phase 1 supports the conclusion of the Range Condition
Assessment for the NWTRC – that a perchlorate contamination source does not exist at NWSTF Boardman (EFA NW 2006).

The Washington Ground Squirrel, found on the Boardman Range in Oregon, is listed as a state endangered species. The Navy allows USFWS access to conduct surveys on the ground squirrel populations found on the range. To protect the ground squirrel and its habitat, and prevent its listing as a Federally endangered species, there is the potential for establishing a conservation easement at Boardman.

**Regulatory Partnerships**

In recent years, there has been a more focused effort on partnership development and coalition building to manage natural resources, prevent and mitigate against encroachment, and leverage limited resources. NWTRC and CNRNW personnel have recognized the common objectives and interests of the Navy, regulatory agencies, land conservancies, and environmental groups in preserving endangered species, critical habitat, and open space, which also helps protect the military mission.

**Natural Resource Management Programs**

There are several natural resource management programs being implemented at NASWI ranges, including Ault Field, Seaplane Base, Outlying Field (OLF) Coupeville, Lake Hancock, and NWSTF Boardman.

NWTRC and CNRNW are currently partnering with several natural resource management agencies for the preservation of “communities of ecological significance.” These agencies include USFWS, U.S. Department of Agriculture (USDA), Washington State Department of Natural Resources (DNR), DE, and DFW. The Nature Conservancy, a land conservation and biodiversity preservation organization, is also actively involved in these programs. With the Navy, these partners provide resources and services to support various natural resource management programs.

CNRNW successfully partnered with local, state, and Federal agencies, along with NGOs, in data collection and forage fish sampling efforts at NAVMAG Indian Island. The Environmental Affairs Office partnered with the North Olympic Salmon Coalition and regulatory agencies, including NOAA, USGS, and the Jefferson County Marine Resources Committee, in shoreline surveys for forage fish spawning grounds as part of the Intertidal Forage Fish Spawning Site Investigation project. This “win-win” collaboration leveraged the resources, expertise, and capabilities of the individual partners to ensure the project’s success. The Navy provided shoreline access and biological staff to assist with sampling, as well as sampling supplies and disposal of sample waste. The data,
analysis, and maps of spawning patterns, were shared with the Navy, which was used for subsequent investigations and consultations.

The Nature Conservancy leases 5,050 acres at NWSTF Boardman. The acreage the divided into three areas managed as Research Natural Areas (RNAs). At the time the RNAs were first leased to The Nature Conservancy, little was known about what areas of the NWSTF Boardman were the most viable and ecologically important (DoN 1999).

The RNAs are used for ecological studies and for the conservation of native grasslands. RNA #1 has been recommended for relocation by The Nature Conservancy to a more appropriate location due to significant disturbance from bombing activity. Relocating RNA #1 would have significant benefits to the Navy, the Oregon Air National Guard, and The Nature Conservancy, including the protection of one of the most ecologically important parts of the Boardman Range, and would allow increased access to biologists for further research. Additional information on the RNAs is provided in Section 9.2.3.3.

**Marine Resources Outreach**

Marine resources represent a special category of issues from an outreach perspective. Unlike terrestrial encroachment issues of urban sprawl, noise, safety areas, and ordnance, the human stakeholders are not usually defined by proximity or political jurisdiction. Instead, the primary stakeholders of concern are regulators and national and international NGOs. In addition, the resources they seek to protect (such as marine mammals) are often difficult to quantify or locate, and the impacts of naval operations on them are the subject of significant scientific debate. While the Navy is the largest funder of marine mammal acoustic research, definitive answers regarding potential liability are still many years off. As a result, allegations of Navy injury to marine animals are currently difficult to prove false. Additionally, the Navy is the executive agent for all maritime issues within the DoD. It is therefore critical that the Navy define existing marine resource outreach activities within its range complexes, identify the department or group within those complexes that has the right and responsibility to conduct those outreach activities, and outline additional outreach opportunities that would allow the Navy to maintain a consistently proactive stance on maritime sustainability issues.

Marine resource outreach is not just limited to marine mammals, but is extended to all potential marine resource categories where they occur within a range complex, including:

- Marine mammals;
- Coral reefs;
- Marine protected areas;
- National marine sanctuaries;
- Essential fish habitat;
Sea turtles and other endangered species;
• Multiuse ocean space, including Usual and Accustomed Treaty Rights;
• Ballast water invasive species;
• Bays and estuaries; and
• Coastal zones.

While Volume 1 of the RCMP describes the Navy’s overarching maritime outreach strategy related to marine resources, this chapter focuses on range complex and regional outreach efforts for those marine resources that are considered significant within this range complex. Descriptions of significant marine resources are found in Chapter 4 and significant encroachment challenges associated with marine resources, if any, are described in Chapter 5. Chapter 10 focuses on marine resource outreach in the complex, including command roles and responsibilities. In addition, resources for marine resource related communications are referenced in this chapter.

Marine Mammals

Marine mammals present a significant issue in the NWTRC, particularly related to the endangered Southern Resident Killer Whale Pods (J, K, and L) and other protected species, potential whale strandings, potential whale strikes, and acoustic issues, including the use of mid-frequency active sonar. On May 5, 2003, the Naval Station Everett-based destroyer, the USS Shoup, drew fierce criticism from whale researchers, the public, and the media for conducting military exercises using mid-frequency sonar in Haro Strait. Conflicting reports from observers reported watching orcas acting “annoyed” to “resting.” Between May 2 and June 2, 2003, there were 16 reported harbor porpoise strandings. Of these 16 strandings, 15 could not be causally linked by COMPACFLT investigators to the use of sonar from the USS Shoup. Although a Federal investigative team later cleared the Navy from responsibility and a NOAA report did not reveal any signs of acoustic trauma in the porpoises, public perceptions indicate that the Navy is still deemed responsible for the incident. According to the CNRNW PAO Summary Data Report of 9 February 2004, the Navy obtained a clear understanding of the public’s level of sensitivity to marine mammal impacts.

The Navy has undertaken a number of global initiatives to carefully monitor its activities and their possible impacts, and has taken active steps to reduce any impact on marine resources. These steps include guidance to ship commanders, periodic updates regarding migratory whale patterns, and marine mammal identification training for personnel. OPNAV N45 has also developed and brought on-line a marine mammal website (http://www.whalesandsonar.navy.mil), which includes information approved for public release by the Navy’s Marine Mammal Working Group.
As noted in the Introduction to the Protective Measures Assessment Protocol (PMAP) (which sets out standard operating procedures, protective measures and guidelines, and provides planning tools to minimize impacts on marine resources), "Conducting safe, effective training at-sea is one of the most important things we do in peacetime, but we must also take prudent steps to minimize the impact of that training on the marine environment." Many of these efforts, however, are unknown to the general public.

Commander, Fleet Forces Command (CFFC) and Commander, Pacific Fleet (CPF) also provide guidance to commanders through detailed documents and messages, including:
- Navy Sonar and Marine Mammal Communications Plan (October 2005)
- Sonar Operation in Puget Sound (June 2003, interim policy)

The biggest challenge to the sustainability of the Navy’s training and operations in the NWTRC is sound in the water. Unfortunately, the prevailing public perception nationally is that the Navy causes large numbers of marine mammal injuries and deaths worldwide. CNRNW has attempted to combat this perception by communicating to regulators and key NGOs the proactive and effective measures the Navy has taken to evaluate and prevent impacts to marine mammals from training operations. While many issues related to sound in the water are handled at the national level by the Chief of Naval Operations (CNO), CNRNW has been active at the local and state levels in developing and sustaining positive relationships with regulatory agencies and other stakeholders charged with the protection of marine mammals. For example, a CNRNW representative is a member of the Sanctuary Advisory Council (SAC) for the Olympic Coast National Marine Sanctuary (NMS). The SAC, a 22-member board, is comprised of ocean recreation businesses, ocean users, environmental interests, fishermen, educators, researchers, and Federal, state, and county officials.

The Navy in Washington State is engaged in numerous partnerships with other government agencies and marine mammal protection groups to spot, track, and disseminate information regarding the presence and movement of marine mammals so their migratory patterns are better understood. For example, range operators have assisted NMFS efforts to protect marine mammals by participating in trainings on the methods of spotting and identifying different marine mammal species.

CNRNW has taken a more prominent role in reaching out to the environmental community on marine mammal issues, particularly the endangered Southern Resident Killer Whale Pods (J, K, and L). The Navy participated in the development of the Orca Conservation Plan in 2006.
Plan by attending meetings and working with the NOAA team, and continually works with the Seattle Aquarium on their Orca Exhibit. Navy Headquarters supports the Region’s participation in these proactive partnering programs as a method of disseminating information about the Navy’s mission and ensuring the Navy speaks with “one voice” on marine mammal issues.

Despite these activities, it does not appear that the Region’s efforts to prevent injury to marine mammals have permeated into the general public’s awareness. Continuing to communicate the Navy’s efforts on marine mammal issues and improving outreach to the greater public and national NGOs will be increasingly important in the future.

**Marine Mammal Incident Protocol**

In terms of logistics, the Chief of Information (CHINFO) has developed Navy Standard Operating Procedures for Responding to Stranding Incidents (*Navy Sonar and Marine Mammal Communications Plan*, 17 October 2005):

1. Local/Regional Public Affairs Office (PAO) immediately notify appropriate fleet command
   - Numbered fleet PAO notifies Commander, Pacific Fleet (CPF) or Commander, Fleet Forces Command (CFFC) PAO
   - CPF/CFFC PAO notifies CHINFO and N45

2. Local PAO collect the following data:
   - Date/time of stranding incident
   - Latitude and longitude of stranding location
   - Navy assets in the region
   - Closest distance of a Navy asset within a 72-hour period
   - Latitude and longitude of nearby vessels at time of stranding
   - Nearby vessels’ activity/operational employment at the time
   - If sonar was in use at the time or in the 72 hours prior to the stranding
   - If applicable: type of sonar in use, periodicity of use, active sonar start/stop times
   - Environmental conditions at time of stranding (visibility, water temperature, etc.)
   - Video or photos of the sighting or stranding if they exist

If a stranding were to occur in the coastal areas of the range complex, CNRNW personnel would be notified immediately and would elevate the issue through the above chain of command as appropriate. In the event of a marine mammal strike or stranding, it is Navy policy that N45 serves as the sole point of contact for liaison activities with the National Marine Fisheries Service (NMFS).
If the event were to become public, potentially attracting media attention, Navy personnel are well aware, as a consequence of on-the-job knowledge, that marine mammal issues are sensitive and personnel should not speak publicly unless directed to do so. There is no established set of messages or talking points that range personnel are authorized to follow when addressing public and/or media questions regarding marine mammal issues.

**Coral Reefs**

Navy testing and training activities in the NWTRC do not impact coral reefs. In the Olympic Coast NMS, deep water coral reefs are present.

**Marine Protected Areas**

Marine protected areas (MPAs) are defined as “any area of the marine environment that has been reserved by Federal, state, Tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein” (Executive Order [EO] 13158, 26 May 2000). MPAs are becoming a higher profile issue in Washington, and there is a greater level of public interest in establishing new MPAs. Government entities, such as the Northwest Straits Commission, and many national and regional environmental NGOs, such as the Natural Resources Defense Council, the local chapter of the Audubon Society, and the Olympic Coast Alliance, are active in supporting and promoting measures to protect marine ecosystems and developing stewardship and conservation programs. The Navy maintains positive working relationships with the various NGOs interested in these issues.

EO 13158 requires Federal agencies whose actions affect natural or cultural resources that are protected by an MPA to: 1) identify such actions and 2) avoid harm to the resources to the extent permitted by law and to the maximum extent practicable.

The Navy has been authorized to continue its existing activities in MPAs where the Navy conducts range operations. However, if there are to be new operations or increased activity or tempo in protected areas, the Navy would conduct an Overseas Environmental Analysis and perform needed consultations with interested parties to discuss the proposed actions.

**National Marine Sanctuaries**

The Olympic Coast National Marine Sanctuary (NMS) is one of North America's most productive marine ecosystems. It provides seasonal habitats for 29 species of marine mammals and is a popular migratory route of various seabird species. The mission of the Olympic Coast NMS program is to “manage ocean, coastal, and Great Lakes areas of special national significance to protect their ecological and cultural integrity for the benefit of current and future
generations.” The program provides leadership and acts as a catalyst to link the assets and resources of governmental and non-governmental organizations to focus attention on the need to effectively and efficiently manage and protect marine resources.” (www.ocnms.nos.noaa.gov/).

The CNRNW Regional Environmental Coordinator (REC) is the Navy representative to the Olympic Coast NMS SAC and attends the SAC meetings, which are held every other month. There are 22 participants in the SAC, including representatives from:

- U.S. Department of Homeland Security, U.S. Coast Guard
- U.S. Department of the Interior, Olympic National Park
- U.S. Navy
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- Washington State Department of Ecology
- Washington State Department of Natural Resources
- Washington State Department of Fish and Wildlife
- County representation (rotational seat)
- Hoh Tribe
- Makah Tribe
- Quileute Tribe
- Quinault Nation
- Chambers of Commerce
- Marine businesses, ports, and industry
- Commercial fishing interests
- Environmental and conservation interests
- Tourism and recreational interests
- Research interests
- Education interests

Essential Fish Habitat

CNRNW is a leader among Navy regions in outreach related to essential fish habitat (EFH). In preparing the INRMP, the region solved open marine water issues and secured concurrence with NGOs on the plan. The Navy also received concurrence on two salmon studies from the USFWS and NMFS.

Sea Turtles and Other Endangered Species

Outreach related to endangered marine species varies by species stability. Installations in the NWTRC are responsible for implementing policies to meet the required consultations and regulations governing endangered species. Sea turtles do not present an encroachment issue in the range complex.

In 1999, USFWS listed local salmon species as threatened and specified that local government entities had the responsibility for salmon recovery. In their efforts to develop a recovery program, Island County was able to procure the necessary grants and leverage
the expertise and services of the other partners for developing beneficial solutions and a successful project. A cooperative agreement was formed between Island County, the Navy, University of Washington, and Oak Harbor School District for restoration of a marsh on Navy property at Crescent Harbor. The development of the feasibility study for this project, which aims at restoring tidal flow and salmon populations, is currently underway.

**Multiuse Ocean Space**

Under the U.S. Supreme Court ruling known as the “Boldt Decision,” *(U.S. v. Washington, 1974, upheld in 1979)*, the treaty rights of 15 western Washington tribes and nations to fish in “usual and accustomed” (U&A) areas were reaffirmed, and 50 percent of the annual catch was allocated to them. The case of *United States v. Oregon* (1969) legally upheld the Columbia River treaty tribes reserved fishing rights. According to Judge Robert C. Belloni’s ruling, “state regulatory power over Indian fishing is limited because, in 1855 treaties between the United States and...tribes, tribes had reserved rights to fish at ‘all usual and accustomed’ places, whether on or off reservation.” For more information about Usual and Accustomed Treaty Rights, see Section 10.3.1.4.

According to the Northwest Indian Fisheries Commission, a tribe or nation’s U&A harvest area reflects the historical region in which finfish, shellfish, and other natural resources were collected. Tribe and nation members are allowed to exercise their treaty-protected harvest rights only within their tribe’s U&A, and all Tribal members must have a valid identification card to be eligible to harvest.

Another issue for the Navy related to multiuse ocean space is derelict nets. The Navy’s involvement in the derelict gear removal program has received positive feedback from stakeholders and is an example of effective partnering and leverage of program resources.

**Derelict Fishing Gear Removal Project**

The Navy has been active in the coordination of derelict fishing gear removal in state marine waters. Derelict fishing gear includes nets, lines, traps, pots, and other recreational or commercial equipment lost or left behind in marine waters. This gear takes hundreds of years to decompose and can cause numerous accidents, including tangling, trapping and wounding fish, birds, and marine mammals, and degrading the marine ecosystem. After significant controversy over the derelict gear issue (primarily due to inaction), state legislation called for greater coordination in the cleanup of the gear. The program has been very successful in addressing the problem and improving coordination and communication among project partners as they work toward a common goal.

Some of the agencies and organizations involved in the Derelict Fishing Gear Removal Project include:
Native American tribes and nations are interested and active in this program because of the impacts to crab and finfish from derelict gear. The project has also improved relations with Native American tribes and nations by building credibility, sharing information, and providing Navy points of contact.

**Ballast Water Invasive Species**

There has been concern in the community about ballast water discharges and the potential for invasive species being transported to the region. In response to the concern, the Navy changed its policy and now discharges ballast water in the open ocean. CNRNW Environmental Operations negotiates the discharge permits (the last permit was issued approximately 10 years ago).

**Bays and Estuaries**

The coastal areas of the Northwest Region include a number of bays and estuaries, most notably Puget Sound. CNRNW works with various Federal and state agencies regarding the Puget Sound environment, including USFWS, DNR, and DE. NB Kitsap personnel also support and participate in the Liberty Bay Watershed Management Committee and the Kitsap County Nearshore Coordination Group.
Coastal Zones

EO 13089 *Coral Reef Protection* (11 June 1998) requires Federal agencies to identify actions that may affect reef ecosystems, use programs and authorities to protect and enhance reef ecosystems, and ensure actions will not degrade the conditions of reef ecosystems. In the Northwest, coastal zone management issues are more directly linked to Navy facilities rather than Navy ranges. There exists the potential for coastal zone issues for inshore ranges within the state coastal zone, including Dabob Bay Range, Admiralty Bay, Lake Hancock, and Crescent Harbor.

The Navy's coastal range areas are regulated by Federal agencies, not the state. However, the Navy makes every attempt to comply with the stricter state regulations. To maintain positive working relations with counties, the Navy provides counties with information on Navy activities or plans within 200 feet of the shoreline.

10.3.1.3 Community, NGOs, and Media

For purposes of this RCMP, community, NGO interests, and the media are generally defined as the stakeholders surrounding the Installations included in the NWTRC, as well as the many stakeholders associated with the marine environment.

Community

Historically, there has been some community opposition to noise levels from aircraft training activities at NASWI; in the late 1980s, the Assistant AICUZ Officer (later changed to CPLO) was established at NASWI because of significant noise issues. Low level air routes pass over three states (Washington, Oregon, Nevada) and several Congressional districts, therefore garnering the attention of multiple stakeholders, particularly the public and elected officials. In the past, there were also concerns from government agencies and the public about aircraft noise impacts to wildlife at an Oregon National Wildlife Refuge.

The Navy has increased participation in joint community committees and working groups as a means of two-way communication with community members related to range and/or environmental issues. For example, working groups and committee that include both community interests and the Navy include the Northwest Straits Commission, the Tribal Council Working Group, and the Marine Resources Committees. These groups have increased the ability of the Navy to communicate its messages directly and have informed individuals about encroachment and sustainability challenges.

Although the Navy is one of the largest employers in Kitsap County, recent community sentiment has largely been negative. There has been negative media coverage of the NAVSEA Keyport Range Complex Extension EIS/OEIS and Navy activities have been
criticized for negatively impacting the economy. Impacts to logging, fishing, and tourism industries, recreational boating interests, and public beach access are identified as significant concerns. This NEPA process presented the first formal opportunity for the Navy to receive feedback from community members on Navy mission, training and testing activities, weapons platforms, and submarine systems. To communicate project-specific information and updates, NAVSEA Keyport published a community newsletter for the NAVSEA Keyport Range Complex Extension EIS/OEIS. A website has been developed and contains Navy contact information, FAQs, and project schedule.

NGOs

There are many active and interested NGOs in the NWTRC, particularly those related to environmental and marine resource issues. Because of this active nature, the Navy monitors and engages, when appropriate, environmental groups and NGOs for situational awareness, to improve relations, and to convey accurate information.

Figure 10-1 provides an illustrative list of the diverse environmental NGOs that are active within the Range Complex, their primary mission or issue area, and their geographic reach. For a complete list of active NGOs in the NWTRC, their missions, and websites, see Section G.4 in Appendix G: Supplemental Outreach Information.

<table>
<thead>
<tr>
<th>Organization Name</th>
<th>Mission/Issue Area</th>
<th>Geographic Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustic Ecology Institute</td>
<td>Sound science/policy</td>
<td>National</td>
</tr>
<tr>
<td>American Cetacean Society (Puget Sound Chapter)</td>
<td>Cetacean protection</td>
<td>National</td>
</tr>
<tr>
<td>Audubon Society Washington</td>
<td>Ecosystem preservation, birds, other wildlife</td>
<td>National</td>
</tr>
<tr>
<td>Battelle Marine Sciences Laboratory</td>
<td>Marine sciences</td>
<td>Local</td>
</tr>
<tr>
<td>B.C. Endangered Species Coalition</td>
<td>Endangered species</td>
<td>International</td>
</tr>
<tr>
<td>Beach Watchers</td>
<td>Puget Sound protection</td>
<td>Local</td>
</tr>
<tr>
<td>Canadian Wildlife Service &amp; Species at Risk</td>
<td>Endangered Species</td>
<td>International</td>
</tr>
<tr>
<td>Center for Biological Diversity</td>
<td>Endangered species and habitat protection</td>
<td>International</td>
</tr>
<tr>
<td>Center for Whale Research</td>
<td>Orcas</td>
<td>Local</td>
</tr>
<tr>
<td>Committee to Save the Kings River</td>
<td>Kings River protection</td>
<td>Local</td>
</tr>
<tr>
<td>Defenders of Wildlife</td>
<td>Endangered species/wildlife protection</td>
<td>National</td>
</tr>
<tr>
<td>Earth Share of Washington</td>
<td>Environmental education</td>
<td>Local</td>
</tr>
<tr>
<td>Fisheries &amp; Oceans Canada</td>
<td>Fisheries/Oceans</td>
<td>International</td>
</tr>
<tr>
<td>FRIENDS of the San Juans</td>
<td>San Juan islands environmental protection</td>
<td>Local</td>
</tr>
<tr>
<td>Georgia Strait Alliance</td>
<td>Georgia Strait environmental protection</td>
<td>Local</td>
</tr>
<tr>
<td>Greenpeace</td>
<td>Environmental protection, whales</td>
<td>National</td>
</tr>
<tr>
<td>Hood Canal Coordinating Council</td>
<td>Watersheds</td>
<td>Local</td>
</tr>
<tr>
<td>Hood Canal Salmon Enhancement Group</td>
<td>Salmon restoration</td>
<td>Local</td>
</tr>
<tr>
<td>Organization Name</td>
<td>Mission/Issue Area</td>
<td>Geographic Scope</td>
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<td>--------------------------------------------------------</td>
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</tr>
<tr>
<td>Humane Society</td>
<td>Animal protections</td>
<td>National</td>
</tr>
<tr>
<td>Institute for Fisheries Resources</td>
<td>Fisheries</td>
<td>National</td>
</tr>
<tr>
<td>Johnstone Strait Killer Whale Interpretive Centre Society</td>
<td>Orcas</td>
<td>International</td>
</tr>
<tr>
<td>Kitsap County Conservation District</td>
<td>Water quality/soil erosion</td>
<td>Local</td>
</tr>
<tr>
<td>Liberty Bay Foundation</td>
<td>Liberty Bay restoration</td>
<td>Local</td>
</tr>
<tr>
<td>Long Live the Kings</td>
<td>Salmon restoration</td>
<td>Local</td>
</tr>
<tr>
<td>Marine Conservation Biology Institute</td>
<td>Marine Science, advocacy</td>
<td>International</td>
</tr>
<tr>
<td>Mason County Conservation District</td>
<td>Soil conservation/endangered species</td>
<td>Local</td>
</tr>
<tr>
<td>Natural Resources Defense Council</td>
<td>Environmental action, advocacy, law</td>
<td>International</td>
</tr>
<tr>
<td>The Nature Conservancy</td>
<td>Species and habitat preservation</td>
<td>International</td>
</tr>
<tr>
<td>North Olympic Salmon Coalition</td>
<td>Salmon restoration</td>
<td>Local</td>
</tr>
<tr>
<td>Northwest Environmental Defense Center</td>
<td>Pacific Northwest environmental protection</td>
<td>Local</td>
</tr>
<tr>
<td>Northwest Resource Information Center</td>
<td>Public policy/ Native American advocacy</td>
<td>Local</td>
</tr>
<tr>
<td>Northwest Straits Commission</td>
<td>Northwest Straits marine resources</td>
<td>Local</td>
</tr>
<tr>
<td>Ocean's Advocates</td>
<td>Ocean policy and protection</td>
<td>National</td>
</tr>
<tr>
<td>Ocean Futures Society</td>
<td>Ocean science/protection</td>
<td>International</td>
</tr>
<tr>
<td>Olympic Coast Alliance</td>
<td>Coastal preservation</td>
<td>Local</td>
</tr>
<tr>
<td>Olympic Peninsula Women’s Outdoor Institute</td>
<td>Outdoor recreation</td>
<td>Local</td>
</tr>
<tr>
<td>Orca Conservancy</td>
<td>Orcas</td>
<td>Local</td>
</tr>
<tr>
<td>Orca Network</td>
<td>Orcas</td>
<td>Local</td>
</tr>
<tr>
<td>Orca Relief Citizens Alliance</td>
<td>Orcas</td>
<td>Local</td>
</tr>
<tr>
<td>Oregon Fishermen’s Cable Committee</td>
<td>Commercial fishing/ocean industry</td>
<td>Local</td>
</tr>
<tr>
<td>Oregon Institute of Marine Biology</td>
<td>Academic/research</td>
<td>National</td>
</tr>
<tr>
<td>Pacific Environmental Advocacy Center</td>
<td>Environmental Law</td>
<td>Local</td>
</tr>
<tr>
<td>Pacific Marine Conservation Council</td>
<td>Marine ecosystems</td>
<td>Local</td>
</tr>
<tr>
<td>Pacific Fishery Management Council</td>
<td>Fisheries</td>
<td>Local</td>
</tr>
<tr>
<td>Parks Canada</td>
<td>National parks</td>
<td>International</td>
</tr>
<tr>
<td>People for the Ethical Treatment of Animals</td>
<td>Animal protections</td>
<td>National</td>
</tr>
<tr>
<td>People for Puget Sound</td>
<td>Education/Environmental protection</td>
<td>Local</td>
</tr>
<tr>
<td>Progressive Animal Welfare Society</td>
<td>Animal protections</td>
<td>National</td>
</tr>
<tr>
<td>Public Employees for Environmental Responsibility</td>
<td>Environmental protection</td>
<td>National</td>
</tr>
<tr>
<td>Puget Sound Action Team</td>
<td>Puget Sound restoration</td>
<td>Local</td>
</tr>
<tr>
<td>Save our Wild Salmon</td>
<td>Salmon restoration</td>
<td>National</td>
</tr>
<tr>
<td>Sierra Club</td>
<td>Environmental protection</td>
<td>International</td>
</tr>
<tr>
<td>Surfrider Foundation</td>
<td>Ocean protection, clean water</td>
<td>National</td>
</tr>
<tr>
<td>University of Washington School of Oceanography</td>
<td>Academic/research, Marine science</td>
<td>International</td>
</tr>
<tr>
<td>Veins of Life Watershed Society</td>
<td>Watershed protection</td>
<td>Local</td>
</tr>
<tr>
<td>Washington Foundation for the Environment</td>
<td>Environmental education</td>
<td>Local</td>
</tr>
<tr>
<td>The Whale Museum</td>
<td>Orcas/Salish sea protection</td>
<td>Local</td>
</tr>
<tr>
<td>Wild Whales B.C. Cetacean Sighting Network</td>
<td>Cetacean protection</td>
<td>Local</td>
</tr>
</tbody>
</table>

Figure 10-1. Active NGOs within the NWTRC
Media Outreach

The CNRNW Environmental PAO has several media programs in place for disseminating information about the Navy’s environmental stewardship and pollution prevention programs. There is a concerted level of effort to secure coverage to disseminate information to internal and external media outlets. For example, a successful media campaign garnered positive media coverage for the delisting of Naval Magazine Indian Island from the National Priorities List (NPL) – the first Navy site deleted from the NPL. Earth Day events and recycling programs are also touted.

Range and OPAREA related media coverage is not as widely disseminated as Installation information. Recently, there have been more attempts to garner media coverage about range issues and encroachment challenges.

Regional and Installation PAOs regularly track media coverage, letters to the editor, and editorials. The Navy on Whidbey Island is generally supported by local newspapers and editorial boards, although individual reporters may sometimes target the Navy and its activities.

Media outreach is focused on the geographic range of Portland to the south, Vancouver to the north, Spokane to the east, and surrounding communities and other states for issue-specific reasons. Additional outreach is directed to the San Juan Islands, Alaska, Idaho, and Montana news outlets, as necessary.

Regionally, the public and media have a heightened interest in environmental issues. Topical issues – such as terrestrial and groundwater contamination, marine mammals, and endangered species – often garner significant media attention. The issuance of environmental study findings, analysis documents, and news releases are also of interest to the media and its readers and listeners.

The NAVSEA Keyport Range Complex Extension EIS/OEIS has also been the subject of negative community sentiments, primarily stemming from misleading information published in a local newspaper. The article gave the false impression that the Navy would be closing off all access to certain ocean/coastal areas, which caused several local residents to object to the proposed action.

Groundwater contamination issues have been the subject of articles in the Oregonian press. After the Department of Environmental Quality released information about perchlorate contamination, there was increased media focus on perchlorate issues at the Boardman ranges.
10.3.1.4 Native American Tribes and Nations

Navy relations with neighboring Native American tribes and nations in the Northwest are positive and have improved through increased communication. The Navy has established or participates in several effective communication forums with Native American tribes and nations, such as the Northwest Navy-Tribal Council and the Point No Point Treaty Council. Tribes are willing to share data, resources, and their expertise with the Navy. The Navy has also worked jointly with Tribes, USFWS, and NMFS on underwater explosive ordnance training issues in Crescent Harbor by developing plans and programs and negotiating mitigation activities.

Most Native American issues with respect to Navy activities typically involve fishing and range access. Range access tends to be more of an issue at NB Kitsap-Bangor and Naval Magazine Indian Island. Under the “Boldt Decision,” the treaty rights of 15 western Washington tribes and nations to fish U&A areas were reaffirmed, and 50 percent of the annual catch was allocated to them. Native American tribes and nations covered by the ruling include Jamestown S’Klallam, Lower Elwha Klallam, Lummi, Makah, Muckleshoot, Nisqually, Nooksack, Port Gamble S’Klallam, Puyallup, Skokomish, Squaxin Island, Suquamish, Swinomish, Tulalip, and Upper Skagit. All tidelands in Puget Sound are within the U&A harvest areas of one or more tribes. Similar rulings for Oregon tribes and nations legally upheld the Columbia River treaty tribes’ reserved fishing rights, including the Nez Perce, Umatilla, Warm Springs, and Yakama tribes. For more information, see Section 10.3.1.2 Multiuse Ocean Space.

The exclusion zone at Dabob Bay Range also necessitates restricting access to tribal, commercial, and recreation fishing interests during testing and training operations. Activities at the Naval Shipyard near Keyport have, at times, caused issue with nearby tribes and nations.

Tribes are particularly interested in BRAC decisions and activities. Several tribes and nations have formed partnerships with the Navy in the cleanup efforts at Installation Restoration sites by developing habitat protection plans, and contributing to shoreline restoration and landfill projects. However, some tribes are opposed to the U.S. military obtaining more property and petitioned the U.S. government requesting the transfer of former military property to the tribes under BRAC.

The Navy has consulted and/or solicited input from neighboring Tribes on issues or projects that may affect them. For example, the Navy provided a copy of the Draft Pier Replacement Environmental Assessment (EA) to the Suquamish Tribe and requested their comments. Tribes also received a briefing on the NAVSEA Keyport Range Complex Extension EIS/OEIS during the scoping period.
Northwest Navy-Tribal Council

The impetus for establishing the Northwest Navy-Tribal Council was that interactions between the Installations and the Tribes were scattered and fragmented. In addition, the Admiral of CNRNW wanted a consistent regional policy to ensure that all Navy bases in the region were speaking to Tribes with one voice and one message. As of June 2005, six tribes have formally signed the charter; eight additional tribes attend Council meetings, but have not formally signed the charter. To encourage greater participation from all local Tribes, the Navy does not exclude any non-Charter signatories from participating in Council meetings.

The purpose of the Northwest Navy-Tribal Council is to “provide a forum to facilitate the exchange of information and effective collaboration on matters of mutual concern between the Navy and Federally-recognized Tribes in western Washington” (Charter for the Northwest Navy-Tribal Council, July 2004). The Council works to develop trust, communicate effectively, and prioritize common goals. The Council works cooperatively to identify regional solutions to environmental, natural resources, and cultural resource issues on Navy-owned lands and areas of operation.

The objectives of the Council are to:
- Facilitate cooperative efforts and partnerships,
- Increase awareness of sensitivities,
- Provide a mechanism for addressing concerns and issues,
- Establish working groups and committees, and
- Develop and coordinate mutually agreeable protocols and procedures.

Five working groups have been established to allow for greater communication about specific issue areas. The working groups are:
- Waterfront and Restricted Areas
- Sediment, Shellfish, and Water Quality
- On Base Inadvertent or Archeological Discovery
- Derelict Gear Removal
- Marine Mammals

The Tribal Council meets every four to six months, which is appropriate. Council members have the flexibility to call for additional meetings as needed. Working groups meet more frequently, but are understaffed.

Point No Point Treaty Council

The Point No Point Treaty Council is a natural resource management organization formed in 1974 to fulfill the requirements placed upon Tribes by the U.S. Supreme Court. The Treaty Council implements goals set by member Tribes for resource conservation, fisheries management, and the protection of treaty fishing rights. The Treaty
Council’s primary purpose is to assist member tribes in exercising their treaty-reserved rights to harvest finfish and shellfish. Treaty Council staff, which includes biologists, fisheries planners, and fisheries enforcement officers, work together to ensure that treaty rights are preserved and treaty fisheries and harvests occur in a biologically sound and sustainable manner. Native American tribes and nations pay a fee to be part of the Council.

The Navy allows periodic access to Naval Magazine Indian Island and NB Kitsap-Bangor for Native American fishermen. Access is granted to shellfish beaches that tribes and nations have U&A treaty rights for harvesting. Security measures are in place, and fishermen must have badges to access areas of the range open to fishing. Access authorization is reviewed and updated annually.

Facilitated through the Point No Point Treaty Council, e-mail notification was established as part of an outreach program supporting an environmental process. Via weekly e-mails, the Navy can notify DFW and the Point No Point Treaty Council about fishing access in training areas up to two weeks in advance of training operations. There is no requirement for the Navy to continue to provide the information; however, notifying Native American tribes and nations, commercial, and recreational fishing interests of Navy activity reduces encroachments on sea ranges.

**10.4 OUTREACH OBJECTIVES AND MESSAGES**

### 10.4.1 Outreach Objectives

These outreach recommendations are specifically designed to address the existing or anticipated encroachment and sustainability challenges of the NWTRC. Areas in which strategic outreach and communication can support overall range encroachment management primarily involve:

- Marine resource and marine mammal protection efforts,
- Land use planning decisions,
- Range transients,
- Airspace encroachments,
- Environmental stewardship programs and pollution prevention measures, and
- Urban encroachment and noise issues.

Recommended communication efforts designed to address encroachment issues and promote sustainability objectives include:

- Develop a joint Fleet/Regional outreach program to maintain, expand, and improve relationships with NOAA, NMFS, state regulatory agencies, and NGOs that have the ability to positively or negatively impact Navy marine training operations.
• Continue a proactive approach to marine mammal and marine resource issues by participation in Advisory Councils and working groups; seek opportunities to partner with regulatory agencies and NGOs in marine mammal protection programs.

• Solidify relationships and foster additional cooperative partnerships with regulatory agencies and NGOs for establishing buffer zones, fostering land conservation, and implementing species and habitat protection programs.

• Proactively work with local elected officials, planning agencies, Native American tribes and nations, and community members in the region to minimize range transients and urban encroachment issues.

• Sustain civic and community organization support for the Navy’s significant regional and community contributions.

• Garner positive media coverage of the Navy mission, range-related issues, community activities, and environmental stewardship and cleanup programs through an active media outreach program.

10.4.2 Strategic Messages

To support the above objectives, the Navy should incorporate strategic messages in all communication efforts. Developing succinct and understandable key messages and incorporating them into communication efforts is highly recommended. Using key messages consistently, through all communication tools and outreach forums, will ensure more successful communication.

Key messages are therefore designed to address range specific encroachment issues and promote sustainability objectives:

• **Realistic training is vital to national defense.** Defending the U.S. and protecting military personnel requires rigorous, real-life training in the air, on land and at sea. Conducting realistic training is one of the most important things the Navy does in peacetime to ensure readiness. The Navy takes active steps to minimize the impact of this training on the environment.

• **The Ranges and Installations of the NWTRC are unique.** The ranges, air stations, and Installations of the range complex provide unique training opportunities essential for the readiness and safety of military personnel and the success of the military mission.

• **The Navy respects the cultural practices, resources, and heritage of its Native American neighbors.** The Navy cooperates fully in the protection of cultural resources and strives to provide access to culturally significant and fishing areas in the NWTRC.

• **The Navy is a vital community partner.** The Navy understands how its activities affect its neighbors and is
committed to addressing their needs and concerns. The Navy appreciates the support of its host communities, elected officials, business groups, and Native American tribes and nations.

- The Navy is committed to protecting the marine environment and is an active participant in its protection. The Navy values the ocean environment and marine life. The Navy will continue to participate in forums aimed at protecting the marine environment and continually implements protective measures to minimize impacts.

- Environmental protection and stewardship programs are part of our mission. The Navy is proud of its successful environmental stewardship, pollution prevention, and cleanup programs and will continue to actively seek partnerships with regulators, NGOs, and other interested stakeholders for habitat conservation and species protection.

- The Navy seeks collaborative and compatible land use solutions to minimize potential conflicts. The Navy works with local planning agencies and government agencies to seek solutions that reduce potential conflicts between the military mission, population growth, the economic vitality of the region, and human and environmental health and safety.

10.4.3 Strategy and Recommendations

This section details suggested outreach activities for key stakeholders to help meet the above objectives. The activities are separated into four stakeholder groups: elected officials; regulatory and government agencies; community, NGOs, and the media; and Native American tribes and nations. Also described are internal Navy coordination efforts to be undertaken to ensure effective outreach.

10.4.3.1 Internal Coordination

Strategy

The crucial factor for the successful development and implementation of a range complex-wide strategic outreach program is internal coordination and accountability. Sharing information among the various Installations, range users, public affairs, and environmental planning divisions of the Commands, Region, and Fleet is critical to facilitate a unified, consistent, targeted, multifaceted, and sustained communication program.

Most members of the general public, government agencies, elected officials, and NGOs are unaware of the many involved departments and Commands or division of labor within the Navy regarding encroachment issues. Recent sentiment expressed at a Regional Encroachment Partnering workshop concerned the number of POCs
for specific issue areas, including planning, real estate, public affairs, legal, etc.

There is a significant need for one POC for encroachment issues for the Region. It is strongly recommended that CNRNW establish one POC that is responsible for communicating information to stakeholders or referring issues to the appropriate subject matter expert or POC. A Regional Community Plans & Liaison Officer working directly for the Regional Commander would be a solution. This would go far in improving the accessibility of information to the public, reducing frustrations, and ensuring greater accountability.

**Recommendations**

- Develop a range complex-wide Encroachment Outreach Plan (EOP), guided by overarching Navy policy yet tailored to specific communication objectives and encroachment and sustainability issues facing the NWTRC. The EOP should be developed and implemented by an EOP working group (with contractor assistance, as needed), a subgroup of the Range Complex Management Team (RCMT). The EOP working group should meet quarterly and be comprised of COMPACFLT, CNRNW, NAVSEA, Command, and Installation public affairs, range, and environmental representatives.

- Establish one POC that is responsible for communicating information to stakeholders or referring issues to the appropriate subject matter expert or POC.

- Develop a Master Stakeholder Database of interested parties and groups for regular information dissemination. To facilitate more targeted outreach efforts, establish stakeholder categories:
  - Elected officials
  - Agencies
  - Community groups
  - NGOs
  - Media
  - Native American
  - Internal Navy personnel

- Validate and maintain stakeholder contact information frequently and update after events of significant change, such as elections.

- Through the EOP working group, establish formal coordination processes between COMPACFLT, CNRNW, NAVSEA, Command, and Installation personnel for environmental outreach and planning efforts. Activities should focus on impacted stakeholders, encroachment issues, and sustainability interests. Regular coordination allows for:
  - greater sharing of information and ideas,
  - leveraging of resources for programs and projects with common objectives, and
  - brainstorming potential stakeholder partnerships.
• Use existing internal communication methods, such as Region and Installation newspapers and electronic communications, to regularly communicate, educate, and convey information to Navy personnel about encroachment issues and upcoming projects and activities. Navy personnel are often viewed by their neighbors and community members as informal spokespeople for the Navy simply because they work on base. Knowledgeable Navy personnel can serve as credible “messengers” in their communities by conveying accurate information in an informal setting.

• Conduct quarterly spokesperson and message training to ensure more successful communication and message consistency in all outreach efforts.

• Develop formal systems and measurements for tracking outreach efforts and “successes”. Disseminate information via the EOP working group. Systems and measurements can include:
  o Database of outreach activities
  o Stakeholder issues and concerns log
  o Media log
  o Stakeholder surveys and interviews

Additional outreach tools and metrics are provided in Figures 10-2 and 10-3.

10.4.3.2 Elected Officials

Federal, state, and local elected officials in the NWTRC have an active interest in Navy activities, and have legislative authority over environmental, regulatory, land use, and marine-related requirements that, to a degree, impact the Navy’s ability to operate. Elected officials are interested in the Navy’s presence and its activities from both an economic perspective (benefits to their districts and constituents) and a sustainability perspective (environmental and encroachment issues facing the Navy and the public).

Federal and State Elected Officials

Strategy

It is imperative that Federal and state elected officials understand the critical importance of military training and readiness activities, and the role that the NWTRC plays in the local and regional economy. Gaining support from Federal elected officials, who vote on legislation that may affect the range complex mission and investment strategy, is critical.

Recommendations

• Proactively contact and inform Federal and state elected officials and staff of issues, in accordance with Navy
protocol. To improve dialogue, inquire about their primary concerns and offer to assist where and if appropriate.

- Provide regular status updates and issue-specific information, such as white papers.
- Notify and update elected officials prior to unusual training activities for proactive communication and to mitigate complaints.
- Invite elected officials and staff, especially military liaisons, for briefings and range tours annually.
- Maintain Elected Official tab of Master Stakeholder Database; regularly disseminate fact sheets, EIS updates, and other informational materials, as appropriate.

**Local Elected Officials**

**Strategy**

Coordinated and facilitated through the RCMT and the EOP working group, maintain regular two-way communication with city and county officials, and city and regional planning entities.

**Recommendations**

- Assign tasking and responsibility to appropriate civilian personnel to regularly attend city council and county commissioner meetings; coach civilian spokespeople and subject matter experts in key messages and frequently asked questions (FAQs).
- The CNRNW Ranges/NASWI CPLO should continue to facilitate discussions and negotiations with local and regional planning agencies to ensure compatible land uses; proactively inform local elected officials, staff, and planning agencies about upcoming projects.
- Invite elected officials and staff, especially military liaisons, for briefings and range tours annually.
- Provide regular status updates and issue-specific information, such as white papers.
- Maintain Elected Official tab of Master Stakeholder Database; regularly disseminate fact sheets, EIS updates, and other informational materials, as appropriate.

**10.4.3.3 Regulatory and Government Agencies**

**National Marine Fisheries Service**

N45 will continue to deal with national and international issues associated with marine mammals. Specifically, N45 will manage interactions with NMFS at the national level for marine mammal research and policies, and marine mammal incident coordination. This approach ensures consistency in policy setting and avoids creating unintended precedents by regional or local personnel.
Strategy

Marine mammal and ecosystem issues are predominant and the focus of regional and national attention, particularly related to the use of mid-frequency active sonar. As the regulatory agency enforcing Federal regulations related to marine issues, it is imperative that a strong and sustained relationship with NMFS be continued and expanded at the regional level.

Recommendations

- Identify a central POC from the RCMT responsible for coordinating efforts with FFC related to national marine resource strategy. This representative should coordinate with COMPACFLT, CNRNW, and local Installations, as appropriate, and organize routine communication with local/regional NMFS representatives outside the NEPA environmental planning process for non-incident partnering and cooperation.
- Establish a schedule of periodic briefings to inform NMFS officials of marine mammal protection efforts. Use these opportunities to encourage recommendations for additional partnering efforts.

Other Federal and State Agencies

Strategy

There are numerous Federal and state agencies with an interest in and with regulatory authority over some Navy activities within their jurisdictions. Routine, periodic interactions with key agencies should be established in the EOP.

Recommendations

- Via the RCMT, assign a representative to maintain ongoing communication with priority agencies outside the NEPA planning process.
- Closely monitor agency positions and seek opportunities to share beneficial information and invite input.
- Maintain Agency tab of Master Stakeholder Database; regularly disseminate fact sheets, EIS updates, and other informational materials, as appropriate.

10.4.3.4 Community, NGOs, and Media

Community

Strategy

Positive relations with host communities, business groups, and the general public are important for the Navy to fulfill its mission. Navy
activities can negatively impact its neighbors; therefore, the Navy is committed to understanding and addressing community concerns.

**Recommendations**

- Assign tasking and responsibility to appropriate Navy personnel to attend established community and business group meetings, such as the Chamber of Commerce and Rotary Club; coach Navy spokespeople and subject matter experts in strategic messages and FAQs.
- Establish a speaker’s bureau and proactively seek opportunities to provide encroachment briefings at established meetings.
- To avoid duplication of efforts and inconsistent messages, coordinate outreach to community groups that may support or oppose upcoming range activities and/or range management practices among region, command, range, and Installation personnel.
- As needed, develop Installation and/or issue-specific “mini” EOPs for targeted outreach efforts to impacted stakeholder groups (i.e., noise abatement programs, land use compatibility issues).
- Proactively notify the public and community groups of significant training activities for “good neighbor” relations and to mitigate noise complaints.
- Maintain Community tab of Master Stakeholder Database; regularly disseminate fact sheets, EIS updates, and other informational materials, as appropriate.

**NGOs**

**Strategy**

A host of national, regional, and local NGOs and interest groups are active and vocal in the NWTRC. It is in the Navy’s short and long term interest to engage NGOs with common goals or outcomes and develop alliances and partnerships.

Given the high profile nature of environmental and marine resource issues in the region, the Navy should consider a more proactive strategy to initiate partnerships with environmental groups. Effective partnering builds trust and credibility, allows for the leveraging and sharing of resources, and has ancillary benefits, such as garnering more positive media coverage.

**Recommendations**

- Identify at least three NGOs with a regional presence with common interests, goals, or outcomes to focus outreach efforts for improved communication and relations, as well as potential partnering opportunities. Contact NGOs with which relationships already exist and invite
recommendations to improve upon and expand these relationships.

- Monitor national environmental issue coverage, newsletters, websites, and web logs; anticipate potential movements to localize controversial issues.
- Develop and disseminate quarterly newsletters focusing on environmental stewardship programs and other items of interest to the general community and environmental groups.
- Offer briefings and presentations to NGOs to explain the Navy mission and suggest any steps NGOs can take to leverage and share resources toward a common goal.
- Submit articles on encroachment issues for inclusion in NGO publications to reach an audience who may not typically endorse the military mission.
- Maintain NGO tab of Master Stakeholder Database; regularly disseminate fact sheets, EIS updates, and other informational materials, as appropriate.

Media

Strategy

There is a greater need to focus on garnering more positive media coverage, both locally and regionally. This is accomplished through a proactive media relations approach.

Recommendations

- Develop and pitch feature articles, opinion/editorials, or advertorials to local and regional media outlets that focus on range or OPAREA issues, challenges, or success stories.
- Invite media representatives to events and base/range tours. Through media briefing packets and tour information, inform media representatives about:
  - the base and/or ranges
  - its mission and operations (purpose and need)
  - environmental stewardship and pollution prevention programs
  - encroachment concerns
  - Navy contributions to the community
- Maintain Media tab of Master Stakeholder Database; regularly disseminate fact sheets, EIS updates, and other informational materials, as appropriate.

10.4.3.5 Native American Tribes and Nations

Strategy

CNRNW and NWTRC personnel have cultivated positive relationships with local Native American tribes and nations through
increased two-way communication efforts. Maintaining these relations continues to be a primary outreach objective.

**Recommendations**

- Continue strong participation in Northwest Navy-Tribal Council and working groups.
- Continue regular updates of fishing access schedule in Navy sea ranges through the Point No Point Treaty Council to avoid the fouling of sea ranges. Consider using this communication channel for other purposes to leverage outreach resources.
- Establish an annual meeting between Commanding Officers and Native American tribes and nations leaders, alternating between range and reservation visits.
- Attend local Tribal Council meetings, when appropriate.
- Extend annual (or more frequent) invitations to Tribes to visit culturally significant sites in the range complex.
- Maintain Native American tab of Master Stakeholder Database; regularly disseminate fact sheets, EIS updates, and other informational materials, as appropriate.

**10.5 Points of Contact**

Successful outreach programs require formalization and coordination to sustain positive relationships. To ensure that the NWTRC speaks with one voice, departmental POCs should be identified as a mechanism for regular communication and information sharing.

It is recommended that CNRNW establish one POC that is responsible for communicating information relating to range encroachment or sustainability challenges to stakeholders or referring issues to the appropriate subject matter expert or POC. It is recommended that the Region consider establishing a Regional Community Plans & Liaison Office that works directly for the Regional Commander.

Key messages and an events and communications master calendar should reside with the CNRNW Environmental PAO. It is recommended that key stakeholder messages and individual Installation POC lists be revised annually and distributed to the Commands through the RCMT. It is also suggested that Regional and Installation POC information is made available at locations frequented by the public (libraries, community meetings) and posted in a user-friendly manner on a publicly accessible website.

**10.6 Metrics and Accountability**

Encroachment issues are active and changing, and issues grow and recede in importance with time. Therefore, measuring the “successes” of outreach efforts, although subjective, is important.
To assist in this endeavor, suggested metrics have been provided in Figures 10-2 and 10-3 as examples. Results-based (qualitative) and activity-based (quantitative) metrics are useful tools for tracking outreach efforts and can help gauge if the appropriate level of outreach is being conducted and the progress made.

- Activity-based metrics are best for tracking a regularized schedule of actions taken to build trust and promote ongoing relationships.
- Results-based metrics are more appropriate for measuring success in achieving specific objectives for particular range sustainability issues, such as favorable land use decisions and regulatory determinations.

To use the metrics most effectively, it is important for the RCMT to discuss point allotments or “scores” as an organization. It is highly recommended that the RCMT and the EOP working group assign ownership and accountability POCs to ensure appropriate outreach is conducted, measure progress, and modify point values or outreach activities based on current outreach goals and priorities. These metrics should be reevaluated annually (or biannually if needed). Metrics can be very useful if discussed, negotiated, and agreed upon by those who have ownership and accountability for the outreach activities.
<table>
<thead>
<tr>
<th>Results-Based Metric (majority are qualitative)</th>
<th>Accountability</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outreach activities being jointly coordinated and implemented between COMPACFLT, CNRNW, NAVSEA, Commands, and Installations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spokespeople and POCs for outreach accountability identified and list distributed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spokespeople trained on key messages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop measurements for successful outreach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;&lt;Additional internal results&gt;&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Internal Subtotal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>External</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land use decisions by county and state officials support the NWTRC joint mission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulatory and government agency decisions support the NWTRC strategic vision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Congressional funding supports investment strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Established strategic partnership with regulatory and NGOs for land conservation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive media coverage garnered regarding community relations activities, environmental issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;&lt;Additional external results&gt;&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>External Subtotal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Total Possible Points</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Points
- **100-90:** on track, good job
- **89-80:** could use slight improvement
- **79-70:** allocate more resources to improve performance
- **<70:** strategy needs reevaluation

Source: Katz & Associates, January 2005

Figure 10-2. Results-Based Performance Measure Example
<table>
<thead>
<tr>
<th>Activity-Based Metric (quantitative)</th>
<th>Accountability Point of Contact</th>
<th>Recommended Frequency</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EOP working group meet to coordinate strategies, goals, and stakeholder outreach activities with COMPACFLT/CNRRNW/Command/Installation outreach POCs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate if implementation of EOP on track</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Update and distribute NWTRC POC list for outreach accountability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spokespeople trained on key messages; Key messages revised and posted on internal website</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop and maintain Master Stakeholder Database</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintain events and communications calendar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outreach “measurements” distributed to and discussed by RCMT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Internal Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribute NWTRC POC list to government agencies, public, elected officials (leave beind)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop and distribute environmental, marine mammal, environmental, and/or NEPA fact sheets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Update website (with POC list, fact sheets)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide community group briefings on encroachment issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet with/brief Federal, state, local elected officials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hold meetings or briefings with NMFS and key regulatory and government agencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet with regional NGO representatives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet with Tribal representatives (formal)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Publish news release, or environmental interest story in regional media</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>External Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Points

100-90: on track, good job
89-80: could use slight improvement
79-70: allocate more resources to improve performance
<70: strategy needs reevaluation

Source: Katz & Associates, January 2005

Figure 10-3. Activity-Based Performance Measure Example
11 INVESTMENT STRATEGY

Range sustainability requires regular investment to sustain, upgrade, and modernize range instrumentation and infrastructure. Each Service is implementing a planning process that is best suited to its requirements and ranges. This chapter recommends and prioritizes investment products to ensure sustainability of current and projected training and test operations.

The investment plan is based on the strategic vision (Chapter 6), including prioritized roles and missions, and shortfalls (or gaps) within the Northwest Training Range Complex (NWTRC) measured against range requirements contained in the Navy Ranges Required Capabilities Document (RCD). Planned investments are those funded or un-funded projects currently identified for the range complex. The recommended investments are additional projects, which may or may not be currently planned, derived directly from the RCMP process such as the range capability shortfalls identified in Chapter 7.

Planned and recommended investments are prioritized based on their defined relative importance or priority for each warfare area or range level in the strategic vision identified for the range. See Prioritized Roles and Missions in Chapter 6.

The following paragraphs describe the major planned and recommended investments for the NWTRC. Figure 11-1 provides a summary of these investments.

11.1 RANGE PLANNING, PROGRAMMING, BUDGETING AND EXECUTION PROCESS

In 2003, the DOD Senior Executive Council, responding to tasking from Defense Planning Guidance (DPG), recommended a process that is now known as Planning, Programming, Budgeting and Execution (PPBE). PPBE replaced the Planning, Programming and Budgeting System (PPBS) that had been in use since 1962. PPBE is a continuous process that results in the annual submission of the President’s budget. It addresses the Future Years Defense Program (FYDP), which is a six year forecast and established a two-year budget cycle that permits a focus on budget execution and program performance evaluation during the off year.

There are four phases to the PPBE cycle; Planning, Programming, Budgeting, and Execution. While PPBE activity occurs throughout the year, component and combatant commander activity is especially active May through August when combatant commanders submit the Integrated Priority List and the components submit their input to the Program Objective Memorandum (POM).
An understanding of the organization between the range complex and the Chief of Naval Operations is essential to understanding the Budget Development process. Chapter 9 discusses this organization in detail and makes the recommendation that a RCC and a support team be identified to help manage the range complex. The overarching recommendation for this investment plan is that the RCC range complex management team be afforded the opportunity to comment on or provide input to the requirements generation process for the range complex. In summary, the Navy Range Office (NRO) functions as the Office of the Chief of Navy Operations (OPNAV) representative responsible for Training Ranges, Target development and procurement, and Major Range and Test Facility Base (MRTFB). NRO is the single Point of Contact (POC) for PPBE, range policy and management oversight (DON, 2004b).

Commander, Navy Installations Command retained ownership of all Class I and II property (Class I is land and Class II is buildings) (DON, 2004b).

### 11.1.1 Range Complex POM Input

In general, range requirements are initiated at the local level under the guidance provided by various stakeholders. Principal among the available guidance is the Strategic Planning Guidance (SPG) and Joint Programming Guidance (JPG). These flow down from the Quadrennial Defense Review. The SPG and the JPG together form the replacement for the old Defense Planning Guidance (DPG) (DOD, 2005c). These requirements are vetted through applicable elements of the chain of command up to the resource sponsor who then submits that input to the Budget Submitting Office.

### 11.2 Modernization

This category captures research and capital investments in ranges and range infrastructure variously supported through RDT&E, Procurement, MILCON, O&M, and MILPERS program funding. Examples of investments that fit in this category are (DOD, 2005a):

- **Real Property**: including equipment that is attached to buildings and structures, major and minor construction projects, and land acquisition.

- **Instrumentation and Communications**: including scoring and feedback systems, radars, optical tracking systems, monitoring equipment, controlling equipment, debriefing equipment, inter- and intra-range communication systems, range support networks and instrumentation frequency management systems.

- **Targets and Target Arrays**: including air, land, sea and undersea presentations, target control systems, target augmentation systems and recurring purchases of expendable target materials.
Another system under this category is the system replacement and modernization (SRAM) program which provides limited funding to assist the Navy ranges within the NWTRC with range refurbishment. SRAM funding requirements are coordinated by Commander, Naval Air Forces (COMNAVAIRFOR) through FFC, resourced by OPNAV N43, and executed by PMA-205 (previously PMA-248), whose agent is NSWC Corona. This progressive refurbishment or upgrading of systems is a cost-effective method for enhancing range performance and reducing the scope of periodic system replacement.

11.3 OPERATIONS AND MAINTENANCE

This category captures day-to-day recurring activities for operating and managing range infrastructure and assets. It is supported through O&M and MILPERS program funding. Examples of investments that fit in this category are (DOD, 2005a):

- Range Clearance: including destruction, removal and proper disposition of used munitions. It does not include removal, treatment or remediation of chemical residues or munitions constituents from the environment or actions to address discarded military munitions.
- Centralized Range Maintenance for Digital Ranges: including standardized maintenance support packages.
- Real Property Maintenance: including expenses and costs associated with sustaining, restoring, modernizing lands, buildings, structures and utility systems.
- Range Operations and Maintenance: including costs associated with administrative functions, scheduling, safety, security, operations and maintenance of vehicles, targets, and other systems and resources.
- Management Planning including the development and maintenance of range sustainability plans.

11.4 ENVIRONMENTAL

This category captures all environmental management systems that support continued sustainable use of the ranges, including (DOD, 2005a):

- Range Assessments used to determine the extent of environmental effects of range activities;
- Range Response Actions to address the removal of munitions, constituents or other environmental contamination on ranges, including the design and implementation of the response plan;
- Range Sustainment Actions taken to preserve the ranges mission;
- Natural and Cultural Resource Management Plan execution costs including all Sikes Act requirements, and
- All other sustainment actions necessary to satisfy environmental compliance requirements including those
1.5 ENCROACHMENT

This category captures actions to optimize accessibility to ranges by mitigating restrictions that limit range activities, including (DOD, 2005a):

- Outreach which includes marketing and focus group research as well as the process of dialogue, information sharing, and issue resolution to inform stakeholders. This does not include outreach that is part of an environmental law such as NEPA. That is covered under the Environmental category;
- Noise Program efforts;
- Compatible Land Use including the development of Range Air Installation Compatible Use Zones; and
- Assessment Tools that identify, quantify, qualify and catalogue the impact of encroachment on ranges.

1.6 SUMMARY

Table 11-1 summarizes the NWTRC investment plan including current and recommended investments. It is organized by investment category. Funding status categories are funded, unfunded, or recommended. Funded and unfunded are already in progress with varying stages of funding authorized. A recommended investment is supported by the data collection and analysis associated with the RCMP process. Investment priorities are defined in Chapter 8.
### Navy Investment Summary for the Northwest Training Range Complex

<table>
<thead>
<tr>
<th>Investment Category</th>
<th>Investment Description</th>
<th>Pri.</th>
<th>Recommended</th>
<th>Funding Status</th>
<th>Procurement Type</th>
<th>Env. Planning Status</th>
<th>NTA supported</th>
<th>Chapter</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modernization</td>
<td>EC targets, mobile EC target</td>
<td>2</td>
<td>Recommended</td>
<td>Procurement, SRAM</td>
<td>Not Started</td>
<td>3.2.5</td>
<td>5, 7</td>
<td>Smart targets, mobile emitters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Range instrumentation system</td>
<td>2</td>
<td>Recommended</td>
<td>Procurement, SRAM</td>
<td>Not Started</td>
<td>3.2.3, 3.2.5</td>
<td>7</td>
<td>Provide high-fidelity TSPI capability throughout range complex</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A-G scoring system at Boardman</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>N/A</td>
<td>3.2.6</td>
<td>6</td>
<td>Potential STW missions from Fallon and/or EA-18G</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boardman targets reconfigured</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>3.2.6</td>
<td>7</td>
<td>Allow for multiple simultaneous events</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Surface target capability</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>3.2.1.1</td>
<td>7</td>
<td>Provide ship services for ASUW training</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Live fire capability near Puget Sound and Kodiak</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>1.1.2.4, 1.5.6</td>
<td>7</td>
<td>For NSW weapons (5.56mm and 7.62mm)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Offshore Instrumentation</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Required</td>
<td>3.2.3</td>
<td>7</td>
<td>Provide AAW debrief capability</td>
<td></td>
</tr>
<tr>
<td>Operations and Maintenance</td>
<td>RCC Staff increase</td>
<td>1</td>
<td>Recommended</td>
<td>CIVPERS</td>
<td>N/A</td>
<td>All</td>
<td>9</td>
<td>Increase in staff to support RCC responsibilities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Web-enabled operations reporting and scheduling system</td>
<td>3</td>
<td>Recommended</td>
<td>Procurement</td>
<td>N/A</td>
<td>All</td>
<td>7, 9</td>
<td>Consider NAVSKED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air services, air target capability</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>N/A</td>
<td>3.2.3</td>
<td>7</td>
<td>Provide ship and aircraft services for AAW training</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>Environmental Coverage for NWTRC operations</td>
<td>1</td>
<td>Recommended</td>
<td>TAP</td>
<td>Started</td>
<td>All</td>
<td>4</td>
<td>Include current and potential Navy operations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boardman RAICUZ update</td>
<td>3</td>
<td>Recommended</td>
<td>TAP</td>
<td>Not Started</td>
<td>3.2.3, 3.2.4, 3.2.5, 3.2.6</td>
<td>4</td>
<td>Include EA-18G and UAV operations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Environmental study to increase NEW limits</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>1.3.1.3, 1.4.4, 1.5.6</td>
<td>7</td>
<td>For EOD training at existing ranges</td>
<td></td>
</tr>
<tr>
<td>Encroachment</td>
<td>Large NEW underwater demo site</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>1.3.1, 1.5.6</td>
<td>3</td>
<td>For SEAL and EOD training with larger detonations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EOD land site at Boardman</td>
<td>3</td>
<td>Recommended</td>
<td>O&amp;M</td>
<td>Not Started</td>
<td>1.3.1</td>
<td>5</td>
<td>Addresses encroachment issues at current ranges</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- Pri = Priority of project.
- Pri 1 addresses potentially severe impacts that affect high priority mission areas.
- Pri 2 addresses moderate impacts to high priority mission areas or severe impacts to medium priority mission areas.
- Pri 3 addresses all minimal impacts and all impacts to low priority mission areas.

Funded: In progress, funding identified.

Unfunded: In progress, funding to be identified.

Recommended: Investment identified during the RCMP process.

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Figure 11-1. Northwest Training Range Complex Investment Summary
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APPENDIX A

TERMINOLOGY

Access
The right to transit to and from and to make use of an area.

Activity
An individual scheduled training function or action such as missile launching, bombardment, vehicle driving, or FCLP that, when combined with other functions or actions, generally makes up an operation.

Alert Area
A designated airspace in which flights are not restricted but there is concentrated student training or other unusual area activity of significance.

Air Traffic Control Assigned Airspace (ATCAA)
Airspace of defined vertical/lateral limits, normally within Positive Control Area, which is assigned by Air Traffic Control for the purpose of providing air traffic segregation between the specified activities being conducted therein, and other IFR air traffic.

Backyard Range
A range within a radius of one hour’s drive (50-65 miles) of a unit, such that training there can be considered non-deployed for personnel tempo (PERSTEMPO) purposes.

Battlespace
The environment, factors, and conditions that must be understood to successfully apply combat power, protect the force, or complete the mission. This includes the air, land, sea, space, and the included enemy and friendly forces; facilities; weather; terrain; the electromagnetic spectrum; and the information environment within the operational areas and areas of interest.

Controlled Access
Area where public access is prohibited or limited due to periodic training operations or sensitive natural or cultural resources.

Co-Use
Scheduled uses that safely allow other units to transit the area or conduct activities.

Event
A significant operational employment during which training is accomplished. “Event” is a Navy approved employment schedule term. The event may be primarily designated as operational, such as TRANSIT, MIO, or STRIKEOPS during which training may take place. Training events may be periods of operational employment.
that are also considered major training events such as COMPTUEX (Composite training unit exercise), JTFEX (Joint training fleet exercise), or other exercises such as BRIGHT STAR, COBRA GOLD, or UNIFIED ENDEAVOR.

**Danger Area**
1. In Canadian airspace, an airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.
2. (DoD only) A specified area above, below, or within which there may be potential danger.

**Exclusive Use**
Scheduled solely for the assigned unit for safety reasons.

**Facilities**
Physical elements that can include roads, buildings, structures, and utilities. These elements are generally permanent or, if temporary, have been placed in one location for an extended period of time.

**Fee Simple Land**
Fee simple land means land held absolute and clear of any condition or restriction, and where the owner has unconditional power of disposition.

**Fleet Area Control and Surveillance Facility (FACSFAC)**
Navy facility that provides air traffic control services and controls and manages Navy-controlled off-shore operating areas and instrumented ranges.

**Fleet Readiness Training Plan (FRTP)**
The 27-month cycle that replaces the Interdeployment Training Cycle (IDTC). The FRTP includes four phases prior to deployment: Maintenance, Unit Level Training, Integrated Training, and Sustainment.

**Fleet Response Plan/Fleet Readiness Program (FRP)**
The Fleet Response Plan was the Navy’s response to the 2002/2003 international situations in Afghanistan and Iraq. The Fleet Readiness Program was later developed by the Fleet commanders. Both names refer to the same operational construct. The FRP is designed to more rapidly develop and then sustain readiness in ships and squadrons so that, in a national crisis or contingency operation, the Navy can quickly surge significant combat power to the scene.

**Frequent User**
A unit that conducts training and exercises in the training areas on a regular basis but does not maintain a permanent presence.
Host
The Facilities Host holds plant account of all Class I (Land) and most Class II (Buildings) property. The Operational Host determines and executes operational policy for the range/range complex.

Impact Area
The identified area within a range intended to capture or contain ammunition, munitions, or explosives and resulting debris, fragments, and components from various weapon system employments.

Intermittent User
A unit that conducts training and exercises in the training areas throughout the year, but not on a regularly scheduled basis, and does not maintain a permanent presence.

International Waters
Sea areas beyond 12 nm of the U.S. shoreline.

Interdeployment Readiness Cycle
The period by which Naval units progress through maintenance/unit level training, integrated training, and sustainment training stages prior to being deployed with the Fleet to support the gaining CINC.

Land/Sea Use
The exclusive or prioritized commitment of a land/sea area, and any targets, systems, and facilities therein, to a continuing purpose that could include a grouping of operations, buffer zone, environmental mitigation, etc. The land/sea area may consist of a range/range complex, grouping of similar facilities, or natural resource-based area with no facilities.

Long-Term Sustainability of DOD Ranges
The ability to indefinitely support national security objectives and the operational readiness of the Armed Forces, while still protecting human health and the environment.

Major Range Event
A significant operational employment of live, virtual, and/or constructive forces during which live training is accomplished. A training event is a major field exercise with multiple training objectives, usually occurring over an extended period of days or weeks. An event can have multiple training operations (sub-events each with its own mission, objective and time period. Examples include C2X, JTFEX, SACEX, and CAX. Events (JTFEX) are composed of specific operations (e.g., Air-to-Air Missile), which consist of individual activities (e.g., missile launch).

Maneuver
The employment of forces on the battlefield through movement in combination with fire, or fire potential, to achieve a position of
advantage with respect to the enemy in order to accomplish the mission.

**Maneuver Area**
Range used for maneuver element training.

**Maneuver Element**
The basic element of a larger force independently capable of maneuver. Normally, a Marine Division recognizes its infantry battalions, tank battalion, and light armored reconnaissance (LAR) battalion as maneuver elements. A rifle (or tank/LAR) battalion would recognize its companies as maneuver elements. A rifle (or tank/LAR) company would recognize its platoons as maneuver elements. Maneuver below the platoon level is not normally possible since fire and movement can be combined only at the platoon level or higher. The Army and National Guard recognize a squad and platoon as maneuver elements.

**Military Operating Area (MOA)**
Airspace below 18,000 feet used to separate or segregate certain non-hazardous military flight activities from IFR traffic and to identify for VFR traffic where these activities are conducted.

**Military Training Route (MTR)**
An airspace corridor established for low altitude military flight training at airspeeds in excess of 250 nautical miles/hour.

**Munitions Constituents**
Any materials originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions.

**Operation**
A training exercise, R&D test, or field event. A combination of activities accomplished together for a scheduled period of time for an intended military mission or task. An operation can range in size from a single unit exercise to a Joint or Combined event with many participants (e.g., aircraft, ships, submarines, troops).

**Operational Range**
A range that is under the jurisdiction, custody, or control of the Secretary of Defense and is used for range activities; or although not currently being used for range activities, that is still considered by the Secretary to be a range and has not been put to a new use that is incompatible with range activities.

**Operating Area (OPAREA)**
Land, air, sea surface and sub-surface space not part of a range used by military personnel or equipment for training and weapons system Research, Development, Test & Evaluation (RDT&E).
Participant
An individual ship, aircraft, submarine, amphibious vehicle, or ground unit.

Prohibited Area
Designated airspace where aircraft are prohibited, except by special permission. Can also apply to surface craft.

Range
A land or sea area designated and equipped for any or all of the following reasons:
- Maneuver element training;
- Research, development, test and evaluation of weapons and weapons systems;
- Delivery or firing of live/inert ordnance against scored and/or tactical targets for training purposes.

Could include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with restricted access and exclusionary areas, but does not include airspace.

Range Activity
An individual training or test function performed on a range or in an Operating Area. Examples include missile launching, bombardment, and vehicle driving. Activities, when combined with other functions, generally make up an operation. Individual RDT&E functions are also included in this category.

Range Complex
A geographically integrated set of ranges, operational areas, and associated special use airspace, designated and equipped with a command and control system and supporting infrastructure for freedom of maneuver and practice in munitions firing and live ordnance use against scored and/or tactical targets and/or Electronic Warfare tactical combat training environment.

Range Operation
A live training exercise, RDT&E test, or field maneuver conducted for a specific strategic, operational or tactical military mission, or task. A military action. The basic metric of range activity. Operations may occur independently, or multiple operations may be accomplished as part of a larger event. One operation consists of a combination of activities accomplished together. Operations can be characterized by their number (ops tempo) and type, participants, footprint and ordnance expended. The type of operation can include air, land, sea, and undersea warfare training or testing and can be identified by Naval Tactical Task. Participants can include a specific number and type of aircraft, ships, submarines, amphibious or other vehicles and personnel. Ordnance broadly encompasses all weapons, missiles, shells, and expendables (chaff and flares). An individual
A single operational training or RDT&E event conducted by one aircraft in a range or operating area. A single aircraft sortie is one complete flight (i.e., one take-off and one final landing).

Special Use Airspace (SUA)
Airspace within which the FAA can confine certain activities such as military flight operations and/or may impose limitations upon aircraft operations not part of those activities. SUA includes military operating areas, restricted areas, and warning areas.

Stakeholder
Those people or organizations that are affected by or have the ability to influence the outcome of an issue. In general this includes regulators, the regulated entity, and the public. It also includes those individuals who meet the above criteria and do not have a formal or statutorily defined decision-making role.
State Jurisdictional Waters
Sea areas within 3 nm of a state’s continental and island shoreline.

Sustainable Range Management
Management of an operational range in a manner that supports national security objectives, maintains the operational readiness of the Armed Forces, and ensures the long-term viability of operational ranges while protecting human health and the environment.

Sustaining the Capability
Maintaining necessary skills, readiness and abilities.

System of Systems
All communications, electronic warfare, instrumentation, and systems linkage supporting the range/range complex.

Targets
Earthwork, materials, actual or simulated weapons platforms (tanks, aircraft, EW systems, vehicles, ships, etc.) comprising tactical target scenarios within the range/range complex impact areas. Could also include SEPTAR, AQM, BQM, MQM, etc.

Tenant
A unit that has an Inter-Service Support Agreement with the host for use of the training areas and that maintains a permanent presence.

U.S. Territorial Waters
Sea areas within 12 nm of the U.S. continental and island shoreline.

Warning Area
Airspace which may contain hazards to nonparticipating aircraft in international airspace.
APPENDIX B

ENCROACHMENT ISSUES BASED ON ENVIRONMENTAL DOCUMENTS
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### Appendix B - Encroachment Issues Based on Existing Environmental Documents in the Northwest Training Range Complex


<table>
<thead>
<tr>
<th>Location-Document</th>
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<th>Airborne Noise</th>
</tr>
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</table>
| 1. Pacific Northwest OPAREA - Olympic Coast National Marine Sanctuary Final Environmental Impact Statement (1993) and NAS Whidbey Island Instruction 3770.1C (Pacific Northwest Operations Area Manual) | The Olympic Coast National Marine Sanctuary (OCNMS) management regulations contain the following restrictions on Navy training:  
- No bombing live or inert within the OCNMS boundaries;  
- No flying recommended less than 2000’ within one nautical mile of the Flattery Rocks, Quillayute Needles, or Copalis National Wildlife Refuge;  
- No flying recommended less than 2000’ within one nautical mile of the coastal boundary (Shoreline to 1 nm seaward). | The Olympic Coast National Marine Sanctuary (OCNMS) management regulations contain the following restrictions on Navy training:  
- No flying recommended less than 2000’ within one nautical mile of the Flattery Rocks, Quillayute Needles, or Copalis National Wildlife Refuge;  
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<th>Maritime Sustainability</th>
<th>Water Quality</th>
<th>Range Transients</th>
</tr>
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<tbody>
<tr>
<td><strong>2. Nanoose Range - Environmental Assessment of the Operational Testing Exercises at the Canadian Forces Maritime Experimental and Test Ranges, Nanoose, British Columbia (1996) and EA Update (2005)</strong></td>
<td>1. It is recommended that CFMETR continue its present policy of suspending torpedo testing when cetaceans are detected within one thousand (1000) yards of the intended torpedo track or within the fenced boundary of the torpedo in the case of ADCAP torpedoes. 2. It is recommended that range vessels maintain a log of cetacean use of the range. 3. Helicopter flights to Winchelsea should respect the pinniped haulouts and fly high enough to avoid causing the seals and sealions to leave their haulouts.</td>
<td>1. NUWC Keyport should ensure that all their promotional and briefing material clearly identify that the CFMETR ranges are jointly run with the Canadian Armed Forces. 2. CFMETR should provide compensation in the event that a foreign warship, weapon, or mooring buoy damages a small Canadian craft or its operators. 3. CFMETR should ensure that the ranges are safe to transit in poor visibility and at night either by suitably marking/lighting mooring buoys and any other hazards to navigation or by removing them when the range is not active.</td>
<td>1. The DND should prepare a study that addresses the clean-up activities which are envisaged and the anticipated division of clean-up responsibilities in the event that the WG or WN license of occupation expires or either party to the agreement decides to terminate its range operations. 2. The further development and use of REXTORP and HOTTORP dummy torpedoes is encouraged. 3. Records of spills are being kept and should be maintained.</td>
<td>1. A written policy is recommended for dealing with range intruders who are not cooperative. 2. CFMETR should continue its public education and awareness programs in accommodating vessels transiting the range. 3. A log of interactions with boaters should be maintained recording cooperative and uncooperative situations.</td>
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<td>4. To protect the Peregrine Falcons nesting on Ballenas Island, it is recommended that the island not be subjected to low jet overflights during the period 1 March through 30 June. 5. To protect the Pelagic Cormorant nesting sites on Ballenas Island, it is recommended that low jet overflights of these islands be restricted between 1 April and 15 June. 6. It is recommended that some helicopters be made available for bird surveys of the range areas. 7. Sonar should be monitored and minimized where possible.</td>
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<td>4. A report should be commissioned on the engineering feasibility and cost/benefit of reducing or eliminating the debris from each of the three aspects of range operations; 5. The Canadian and U.S. Navy should investigate moving to entirely non-ballasted HOTTORPs and REXTORPs, if necessary by using a flotation collar to provide buoyancy for recovery; 6. CFMETR should maintain internal records of the debris generated by range activities.</td>
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<td>4. US personnel should receive briefings on the history of the range and the principal concerns expressed by the community. 5. A U.S. representative should participate in the regular stakeholder meetings which are proposed.</td>
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Note: Only applicable encroachment issues are shown below. Available list of encroachment categories includes: 1) Endangered Species-Critical Habitat; 2) UXO/Munitions; 3) Frequency Encroachment; 4) Maritime Sustainability; 5) Airspace Restrictions; 6)

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<tr>
<th>Location-Documents</th>
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</thead>
<tbody>
<tr>
<td>1. Seaplane Base Detonation Training Range - Environmental Assessment: Relocation of the Explosive Ordnance Disposal Demolition Training Range (2009)</td>
<td>Demolition training will not occur when marine mammals are present on the haul-out rocks located just off shore from the proposed site.</td>
<td>1. Modeling indicates that increasing the explosives from .5 lbs to 5.0 lbs NEW explosives could, under certain atmospheric conditions, create potentially significant impacts to nearby residents. To greatly reduce the potential for noise complaints and to eliminate the potential for damage, detonations should only be conducted during specific meteorological conditions that take into account the temperature gradient, wind direction and speed, and the amount of explosive to be detonated. The DTR was to adopt a table of these meteorological conditions into their new Standard Operating Procedures.</td>
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<td>2. Conduct an open-house by EODMU ELEVEN to inform, educate and establish correspondence with the residents affected by high noise levels and the expected frequency of occurrence of the detonations, as well as what they may experience (e.g., rattling of windows).</td>
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<tr>
<td>4. Puget Sound EOD Training Areas (Crescent Harbor, Floral Point, and NAVMAG Indian Island) - Biological Assessment for EOD Operations in the Puget Sound, Washington and COMNAVREGNW INSTRUCTION 8027(2000)</td>
<td>1. Surveying (via boat) within a 500 m radius of the detonation site to determine whether marine mammals are present. &lt;br&gt;2. The charge is not detonated if marine mammals or birds are within distances where injury could potentially occur. The charge is detonated once the birds and mammals clear the vicinity. &lt;br&gt;3. At the Crescent Harbor and Port Townsend Bay (aka Indian Island) sites, during the juvenile migration season (March 15 to July 1 for salmon and bull trout), charges larger than 5 lb. should not be used. If it is necessary to use charges larger than 5 lb., and up to 20 lb., these charges should be detonated at least 1000 m from the nearest shoreline. &lt;br&gt;4. Maximum Net Explosive Weight (NEW) for any underwater detonation in the U.S. Navy EOD Puget Sound Training Ranges of Crescent Harbor and Port Townsend will be 20 pounds NEW.</td>
<td>In order to avoid possible conflicts with tribal fishing, the acting EOD unit will contact Navy Region Northwest at (360) 315-5006 prior to operations at the Crescent Harbor Underwater EOD Range. Navy Region Northwest will then notify designated point of contact for the Skagit System Cooperative (currently Ms. Lisa Turpin, Swinomish Tribal Affairs at (360) 466-7238). If at all possible, EOD unit shall give at least 10 days prior notice.</td>
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<td>5. Maximum NEW for any underwater detonation in the U.S. Navy EOD Puget Sound Training Ranges of Hood Canal will be 5 pounds NEW.</td>
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<td>6. At the Hood Canal site (aka Bangor/Floral Point), charges larger than one pound will not be used during the juvenile migration season (March 15 to July 1 for salmon and bull trout).</td>
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<td>7. Thirty minutes prior to any underwater detonation, a minimum of one EOD work boat will patrol the training range for potential presence of marine mammals. &lt;br&gt;a. Pay particular attention for any Harbor Seal or California Sea Lions known to occasionally haul out on the “haul out rocks” along the eastern shoreline of Crescent Harbor (approximately 48°17'15&quot;N / 122°34'00&quot;W) and off Forbes Point (approximately 48°16'22&quot;N / 122°37'50&quot;W). &lt;br&gt;b. Per the Biological Assessment Addendum (2001), for Crescent Harbor and Port Townsend any sightings of marine mammals within a 600M radius of the underwater detonation site will cause underwater detonations to be cancelled and rescheduled. For Hood Canal site, any sightings of marine mammals within a 345M radius of the underwater detonation site will cause underwater detonations to be cancelled and rescheduled.</td>
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<td>8. Following an underwater detonation the site will be monitored for a minimum of fifteen minutes and the EOD Detonation Supervisor will fill out an Environmental Historical Monitoring Sheet. Once completed, the Sheet will be maintained for a historical record by each unit conducting underwater demolition operations.</td>
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### Appendix B - Encroachment Issues Based on Existing Environmental Documents in the Northwest Training Range Complex

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<th>Cultural Resources</th>
<th>Range Transients</th>
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<tbody>
<tr>
<td>5. Dabob Bay Range Complex - Environmental Assessment for Ongoing and Future Operations at U.S. Navy Dabob Bay and Hood Canal Military Operating Areas (2002)</td>
<td>To ensure the protection of nesting bald eagles and foraging marbled murrelets from disturbance by helicopters or fixed-wing aircraft, flight rules have been formalized for the DBRC and adopted in the OMP. The Navy will continue to conduct marine mammal surveys prior to operations and postpone operations until marine mammals leave the project area. The Navy will continue to train range vessel operators as marine mammal observers. If cetaceans are present and expected to be within the ensonified area, no testing would occur.</td>
<td>General flight rules for helicopters and fixed-wing aircraft include: a. Flights over land must be at a minimum elevation of 1,000 ft (305 m); b. Flights over water must be at a minimum elevation of 500 ft (152 m); c. Flights must maintain a 656 foot (200m) lateral no-fly buffer around bald eagle nests; and d. Flights within 500 yards (457m) of the shoreline must be at a minimum elevation of 1,000 ft (305 m).</td>
<td>When weapon recovery or the replacement or installation of acoustical monitoring equipment or related cabling will require bottom disturbing activities within one mile (1.6 km) of a known shipwreck site, the Navy will conduct reconnaissance of the area to determine if the shipwreck is located within the area to be disturbed.</td>
<td>Consultation with the representatives from the affected Tribes and Point No Point Treaty Council resulted in an agreement to exchange information. The Navy will provide tribal points of contact an email of the weekly scheduled range activities in the Dabob Bay Range Complex, including estimates of range usage time (half day/all day).</td>
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<td>Immediately before each test, marine mammal surveys are conducted by trained Navy observers as a standard operating procedure. If harbor seals are present within 100 yards (91m) of the expected system path, the test will be postponed.</td>
<td>In the event that the shipwreck is within the area to be affected by the proposed operation, the Navy will consult with the State Historic Preservation Officer (SHPO) to determine if the action may proceed as planned, or what modifications to the action may be needed.</td>
<td>The Navy will continue to meet with the Tribal representatives as requested.</td>
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<td>Fleet sonar has limited application within the Dabob Bay Range Complex, and because of its potential effect would not be used at high power levels without further analysis and consultation with the National Marine Fisheries Service.</td>
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<tbody>
<tr>
<td>6. NAVMAG Indian Island - Environmental Assessment for Joint Logistics Over-the-Shore 2005 (JLOTS 2005), Naval Magazine, Indian Island (2005)</td>
<td>JLOTS is scheduled after the peak juvenile salmon and bull trout migration period, which occurs between February 15 and July 15. Furthermore, JLOTS is scheduled after the Bald Eagle breeding season (1 January through 15 August). Exercise personnel have been directed to watch for harbor seals and to avoid them. An exercise timeout may be taken to make sure exercise personnel can avoid marine mammals.</td>
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<thead>
<tr>
<th>Location-Document</th>
<th>UXO / Munitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. NAVMAG Indian Island - Environmental Assessment for Joint Logistics Over-the-Shore 2005 (JLOTS 2005), Naval Magazine, Indian Island (2005)</td>
<td>All blank firing will be limited to the North end of the Island and will be directed away from environmentally sensitive areas, and will be cleaned up.</td>
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<tr>
<td>6. NAVMAG Indian Island - Environmental Assessment for Joint Logistics Over-the-Shore 2005 (JLOTS 2005), Naval Magazine, Indian Island (2005)</td>
<td>Explosive ordnance will occur periodically at designated times away from environmentally sensitive areas. Aircraft will only be flown during the daylight hours and will comply with FAA regulations.</td>
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<tr>
<td>6. NAVMAG Indian Island - Environmental Assessment for Joint Logistics Over-the-Shore 2005 (JLOTS 2005), Naval Magazine, Indian Island (2005)</td>
<td>Historic and cultural resource sites identified on an enclosed map will be briefed to the participating units and designated as off limits to exercise play. Should a historic or cultural property or site be found or damaged, the exercise activity in the vicinity shall be suspended and the NAVMAG Historic and Cultural Resources Officer will be immediately notified.</td>
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<td>6. NAVMAG Indian Island - Environmental Assessment for Joint Logistics Over-the-Shore 2005 (JLOTS 2005), Naval Magazine, Indian Island (2005)</td>
<td>Eelgrass beds are off limits to exercise personnel and care is being taken to prevent contaminants from entering the water.</td>
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<th>Wetlands</th>
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<tr>
<td>6. NAVMAG Indian Island - Environmental Assessment for Joint Logistics Over-the-Shore 2005 (JLOTS 2005), Naval Magazine, Indian Island (2005)</td>
<td>Because some tribes use the island beaches for subsistence, JLOTS 05 will not use any beaches on the island for exercise play. Furthermore, exercise personnel will be prohibited from hunting and fishing either while on duty or off duty while on the Island.</td>
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<tr>
<td>1. All weapons firings shall be conducted during daylight hours, defined as official sunrise to official sunset. Sea surface temperature shall be reviewed prior to the exercise. The SINKEX shall not be conducted within or in the vicinity of warm and cold core rings where strong temperature discontinuities are present indicating the existence of oceanographic fronts. Concentrations of some listed species are known to be associated with these oceanographic features. An exclusion zone with a radius of 2.0 nmi will be established around each target. This exclusion zone is based on calculations using a 10.55 lb. NEW detonated in water, which yields a distance of 2.0 nmi beyond which the receive level is below the 182 dB re: 1μPa² sec threshold established for the shock trial of the USS WINSTON S. CHURCHILL (DDG 81). Additionally, a larger safety zone will be established around the entire exercise area. This safety zone is dependent upon the safety range of the weapon being fired. A series of surveillance over flights shall be conducted prior to the SINKEX to ensure that no marine species are present in the exclusion zone. Survey protocol will be as follows:</td>
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<td>2. Beginning at sunrise each day of the exercise, aerial surveillance of the exclusion, survey (if feasible), and safety zones (if feasible) shall commence at least one hour prior to the first firing. The aircraft will fly at the lowest safe altitude and slowest possible safe speed to facilitate observation of the exclusion zone around the target. Track spacing will be based on the environmental conditions of the day and will be determined using the Navy's Search And Rescue (SAR) Tactical Aid (TACAIID). The Navy’s SAR TACAIID provides the best search altitude, ground speed and track spacing for a search of small, possibly dark objects in the water based on the current environmental conditions of the day.</td>
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</tr>
<tr>
<td>3. If marine species are observed in the exclusion zone or the larger safety zone, the observing aircraft will track them. If marine species are detected within the exclusion zone at any time during the exercise, firing will be suspended until the area is clear. If a marine species is observed diving within either the exclusion or safety zones, an attempt will be made to re-sight the animal. If an animal within the exclusion zone is observed diving, firing will be delayed until the animal is re-sighted outside the exclusion zone, or 30 minutes have elapsed. After 30 minutes, if the animal has not been re-sighted, it is assumed that the animal has left the area and firing may resume. This time is based on a typical dive time of 30 minutes.</td>
<td></td>
</tr>
<tr>
<td>4. The exclusion zone and will again be surveyed during any break in the exercise. The results of all visual and aural searches shall be reported to the Officer Conducting the Exercise (OCE). No weapon launches shall commence until the OCE declares the range free of marine species. Upon sinking of the hulk, a final surveillance of the exclusion zone will be conducted to mark the location of the sunken hulk and to verify no marine species were harmed.</td>
<td></td>
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</tbody>
</table>
APPENDIX C

ENCROACHMENT SUMMARY MATRICES
<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Sub Surf OpArea</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>Restrictions on Link-16, SPY-1, SPS-43, IFF Transponder Mode 4 near the coast.</td>
<td>COMMS minimum flight altitude of 2000' within 3 NM of the coast, impacts low level (below clouds) inshore training of coast line and ships.</td>
<td>Compensatory efforts that deal with USAF much closer to Pt Mugu to launch live fire AGM-84/HARM, one per squadron annually</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
</tbody>
</table>
### Whidbey Island Range Complex Encroachment Summary

<table>
<thead>
<tr>
<th>RANGE / SUA</th>
<th>Endangered Species/Critical Habitat</th>
<th>UXO and Munitions</th>
<th>Frequency/Encroachment</th>
<th>Maritime Sustainability</th>
<th>Air Quality</th>
<th>Airborne Noise</th>
<th>Urban Growth</th>
<th>Cultural Resources</th>
<th>Water Quality</th>
<th>Wetlands</th>
<th>Range Transients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Olympic MOA</strong></td>
<td><em>Bird migrations in MOAs, cause avoidance areas, avg 10 impact events per month.</em></td>
<td><em>No Observed Impact</em></td>
<td><em>The Joint Restricted Frequency List (JRFL) imposes restrictions.</em></td>
<td><em>Elaboration exceeds UNCLASS.</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
</tr>
<tr>
<td><strong>Okanogan MOA</strong></td>
<td><em>Bird migrations in MOAs, cause avoidance areas, avg 10 impact events per month.</em></td>
<td><em>No Observed Impact</em></td>
<td><em>&quot;No jamming authorized in Okanogan &amp; Roosevelt MOAs due to presence of a satellite communication station.&quot;</em></td>
<td><em>The Joint Restricted Frequency List (JRFL) imposes restrictions.</em></td>
<td><em>Elaboration exceeds UNCLASS.</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
</tr>
<tr>
<td><strong>Roosevelt MOA</strong></td>
<td><em>Bird migrations in MOAs, cause avoidance areas, avg 10 impact events per month.</em></td>
<td><em>No Observed Impact</em></td>
<td><em>&quot;No jamming authorized in Okanogan &amp; Roosevelt MOAs due to presence of a satellite communication station.&quot;</em></td>
<td><em>The Joint Restricted Frequency List (JRFL) imposes restrictions.</em></td>
<td><em>Elaboration exceeds UNCLASS.</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
<td><em>No Observed Impact</em></td>
</tr>
</tbody>
</table>
### Whidbey Island Range Complex Encroachment Summary

<table>
<thead>
<tr>
<th>RANGE / SUA</th>
<th>Minimal/No Impact</th>
<th>Moderate Impact</th>
<th>Severe Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DBRC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keyport Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CFMETR (NanOOSE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quinault Site</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### DBRC
- **Endangered Species/Critical Habitat**
- **UXO and Munitions**
- **Frequency of Encroachment**
- **Maritime Sustainability**
- **Air Quality**
- **Airborne Noise**
- **Urban Growth**
- **Cultural Resources**
- **Wetlands**
- **Range Transients**

When Orcas are present, NUWC has a self-imposed stand-off range of at least 500 yds with a guard boat, sometimes with SSBN Sea Trail ops.

#### Keyport Site
- **Endangered Species/Critical Habitat**
- **UXO and Munitions**
- **Frequency of Encroachment**
- **Maritime Sustainability**
- **Air Quality**
- **Airborne Noise**
- **Urban Growth**
- **Cultural Resources**
- **Wetlands**
- **Range Transients**

Pacific Right Grey Whales migrate on Keyport site, their presence interferes with range ops and creates more work for NUWC personnel in guard boats enforcing stand-off distances.

#### CFMETR (NanOOSE)
- **Endangered Species/Critical Habitat**
- **UXO and Munitions**
- **Frequency of Encroachment**
- **Maritime Sustainability**
- **Air Quality**
- **Airborne Noise**
- **Urban Growth**
- **Cultural Resources**
- **Wetlands**
- **Range Transients**

When Orcas are present, NUWC has a self-imposed stand-off range of at least 500 yds with a guard boat. Orcas pods have remained in Dabob for up to 3 months.

#### Quinault Site
- **Endangered Species/Critical Habitat**
- **UXO and Munitions**
- **Frequency of Encroachment**
- **Maritime Sustainability**
- **Air Quality**
- **Airborne Noise**
- **Urban Growth**
- **Cultural Resources**
- **Wetlands**
- **Range Transients**

Due to environmental pressure by the public, NUWC self-imposed use of biodegradable preservatives on shipboard equipment does not adequately protect metal from marine environment. Metal cables must be replaced frequently, machinery repaired and replaced more often.
### Whidbey Island Range Complex Encroachment Summary

<table>
<thead>
<tr>
<th>RANGE / SUA</th>
<th>Minimal/No Impact (Min)</th>
<th>Moderate Impact (Mod)</th>
<th>Severe Impact (Svr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crescent Harbor underwater EOD range</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>NAVY SUR lives near must be careful when training in the Crescent Harbor Survival Training area. To stop away from Eagle nests in trees.</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Environmental Protection of Marine mammals (Orca pods), Salmons migration, and other fish in summer months, restricts EOD underwater NEW. Seals occasionally rest on haul out rocks. EOD personnel must delay underwater detonations.</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Urban Growth will probably become a severe impact on EOD training in Crescent Harbor, due to noise, recreational and small commercial boats for fishing and SCUBA diving.</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Local Indian tribes apply political pressures ONMAY to stop EOD/OMAI-11 from detonating underwater training aides.</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>EOD soldiers train out of area to train.</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Indian tribes set many crab traps, &quot;pots,&quot; tethered to a small buoy floating on the surface. This multitude of lines and crab pots impacts EOD underwater training as vessels search for training shapes.</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Indian tribes complain the explosive events disrupt the muscle beds and kill dungenous crab. (Minimal Impact)</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Indian tribes rely on Indian tribes from other areas for underwater training, and civilian boats may foul the range. (Minimal Impact)</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Naval Island underwater EOD range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seaplane Base EOD Demo Trng Range</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Naval Island underwater EOD range</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Floral Point Underwater EOD Range</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>Bangor EOD Demo Trng Range</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
<td>No Observed Impact</td>
</tr>
<tr>
<td>RANGE / SUA</td>
<td>Endangered Species &amp; Critical Habitat</td>
<td>UXO and Munitions</td>
<td>Frequency Encroachment</td>
</tr>
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</tbody>
</table>
APPENDIX D

REQUIRED CAPABILITIES ANALYSIS MATRICES
<table>
<thead>
<tr>
<th>Common Range Attributes</th>
<th>System of Systems</th>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Threshold/Objective Assessment</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Past Investment Plan</th>
<th>Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scheduling System</td>
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</tbody>
</table>

**RCD Defined Capability**

- **Pre-Event Module**: Support unit-level queries on platform name and training event. Identify and notify of competing requirements. Support late cancellations, flexibly and responsively. *Ad-hoc Event Module*: Allow real-time adjustment and cancellation of events (prior, during, after the event). *Post-Event Module*: Generate automatic post-event message/email to user.

- The schedule is not web-based and does not allow for real-time and post-event module requirements.

**Range Complex Management Plan**

- The lack of capabilities of the scheduling system to meet RCD requirements has little impact on the accomplishment of training events within the complex.

**Invest in and further develop the NAVAIR developed NAVSKED software to meet RCD requirements**

Ineffective meteorological information: Objective - Report current sea state and sound velocity profile when applicable.

- The MET system meets all the RCD requirements except for the exception of reporting sea state and sound velocity profile information.
<table>
<thead>
<tr>
<th>Operational Elements</th>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Threshold/Objective Assessment</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Post Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airspace</strong></td>
<td></td>
<td><strong>Operational Elements</strong></td>
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<tr>
<td></td>
<td>Aircraft Events:</td>
<td></td>
<td>45 minute range period;</td>
<td></td>
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<tr>
<td></td>
<td>Surface Combatant</td>
<td></td>
<td>can't conduct AAW</td>
<td></td>
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<td></td>
<td>Offshore airspace</td>
<td></td>
<td>is not clear for</td>
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<td><strong>Operational Elements</strong></td>
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<tr>
<td></td>
<td>Aircraft Events:</td>
<td></td>
<td>3 hour range period;</td>
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<tr>
<td></td>
<td>Surface Combatant</td>
<td></td>
<td>75nm x 75nm; Surface to</td>
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<tr>
<td></td>
<td>Offshore airspace</td>
<td></td>
<td>60K' AGL; Some portion</td>
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<td></td>
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<td><strong>Operational Elements</strong></td>
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<td></td>
<td>Aircraft Events:</td>
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<tr>
<td></td>
<td>Surface Combatant</td>
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</tbody>
</table>

**Sea Space**

<table>
<thead>
<tr>
<th>Operational Elements</th>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Threshold/Objective Assessment</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Post Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Operational Elements</strong></td>
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<td>Aircraft Events:</td>
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<td><strong>Operational Elements</strong></td>
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**Land Area**

<table>
<thead>
<tr>
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<th>Range Attributes</th>
<th>RCD Defined Capability</th>
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<tr>
<td></td>
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<td><strong>Operational Elements</strong></td>
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<td>Aircraft Events:</td>
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<td></td>
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<td><strong>Operational Elements</strong></td>
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</table>

**System of Systems**

<table>
<thead>
<tr>
<th>Operational Elements</th>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
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<td>Aircraft Events:</td>
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<td><strong>Operational Elements</strong></td>
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</table>

**Communication System**

<table>
<thead>
<tr>
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<th>Threshold/Objective Assessment</th>
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<th>Post Investment Plan Threshold/Objective Assessment</th>
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<td><strong>Operational Elements</strong></td>
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<td>Aircraft Events:</td>
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**Target System**

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<th>Threshold/Objective Assessment</th>
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<td><strong>Operational Elements</strong></td>
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**Instrumentation System**

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<th>Threshold/Objective Assessment</th>
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<th>Investment Plan</th>
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<td>Aircraft Events:</td>
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<td><strong>Operational Elements</strong></td>
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**OFFOR System**

<table>
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<tr>
<th>Operational Elements</th>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Threshold/Objective Assessment</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Post Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
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<td><strong>Operational Elements</strong></td>
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<td></td>
<td>Aircraft Events:</td>
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<td><strong>Operational Elements</strong></td>
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</tbody>
</table>
## Level 1 Capability Matrices

### Range Complex Management Plan

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<tr>
<th>Range Attributes</th>
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<th>Threshold/Objective Assessment</th>
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<th>Post Investment Plan Threshold/Objective Assessment</th>
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<tbody>
<tr>
<td>Airmass</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</tr>
<tr>
<td>Sea Space</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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<tr>
<td>Land Area</td>
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<td>None</td>
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</tbody>
</table>

### Operational Elements

### Airmass

#### Priority 1

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

#### Priority 2

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

#### Priority 3

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

### Sea Space

#### Priority 1

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

#### Priority 2

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

#### Priority 3

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

### Land Area

#### Priority 1

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

#### Priority 2

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

#### Priority 3

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

### System of Systems

### Communications System

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

### Target System

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

### Instrumentation System

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

### OFFOR System

- **Operational Elements:**
  - **Aim for:** Medium range. A target must be prepared for AAW operations. Some of the target area includes land near the salt flat component and some is clear to the surface. The primary target is for supersonic flight. **Surface Combatant Events:** The limited amount of AAW conducted in the offshore areas and in the extended areas not impacted significantly by these shortages. EA-6B aircraft perform in the primary platforms in these exercises in the NWTRC and conduct AAW as a secondary role. These aircraft are capable of supersonic flight.

## Recommendations

Recommend acquiring a S-A towed target capability (Commercial Air Services). Requirements will be fully met None

**Debrief:** The complex lacks any debrief capabilities. None

**Tracking TSPI:** High Fidelity 24 (up to 10 Blue, 12 OPFOR aircraft, and 2 drones replicating ASMs); Low Fidelity 10 (Includes Blue air support aircraft and surface platforms); High Fidelity 6 (with 2 drones replicating ASMs); Low Fidelity 4 (With 1 drone replicating a drone); High Fidelity 2 (with 1 drone replicating a drone); Low Fidelity 1 (With 1 drone replicating a drone). None

**EC&C:** 2-D, 3-D,酒业、A-A, A-S, S-S, S-A. None

**M&S:** None

**Scoring:** Manual or Auto; RTKN - Voice or Auto. None

**Measurement:** None

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<table>
<thead>
<tr>
<th>Operational Elements</th>
<th>RCD Defined Capability</th>
<th>Threshold/Objective Assessment</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Post Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airspace</strong></td>
<td>6 hour window, 50NM x 75NM, Surface to 35K' AGL</td>
<td>The at-sea warning areas associated with the Pacific Northwest OPAREA meets the Full requirements of the RCD for airspace.</td>
<td>No Impact</td>
<td>None</td>
<td>NA</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td>8 hour window, 50NM x 75NM, Operating Area</td>
<td>The Pacific Northwest OPAREA more than meets the requirements of the RCD for sea space.</td>
<td>No Impact</td>
<td>None</td>
<td>NA</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Undersea Space</strong></td>
<td>Sufficient underwater space to use submarine-launched anti-ship weapons. UTR is preferred, but not required.</td>
<td>The underwater space of the Pacific Northwest OPAREA more than meets the requirements of the RCD for undersea space.</td>
<td>No Impact</td>
<td>None</td>
<td>NA</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>System of Systems</strong></td>
<td>2 dedicated EC&amp;CC circuits.</td>
<td>There are no communications systems in the NWTRC which serve the offshore areas of the complex to support ASW.</td>
<td>The limited amount of ASW conducted in the NWTRC is not impacted significantly by this communications shortfall.</td>
<td>None</td>
<td>NA</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Target System</strong></td>
<td>At least 1 stationary and 1 towed or self-propelled target.</td>
<td>The NWTRC does not have any inherent ASW targets in the complex. Surface ships have the ability to launch a floating at-sea target which meets the stationary requirement and submarines can use the NWTRC surface or undersea space for training.</td>
<td>The lack of targets prevents some basic and intermediate training events from occurring in the complex. Surface ships conduct basic and intermediate ASW against the floating at-sea target, while aircraft and submarines conducting ASW also against targets of opportunity without conducting live-fire training.</td>
<td>Recommend acquiring towed or remote-controlled surface targets for ASW training</td>
<td>Requirements still fully met</td>
<td>None</td>
</tr>
<tr>
<td><strong>Instrumentation System</strong></td>
<td>Tracking TSPI: High Fidelity 4 (2 Blue and 2 OPFOR air assets), Low Fidelity 5 (2 Blue, 1 OPFOR); EC&amp;C: 2-D, 3-D; M&amp;S: A-S, A-G, S-S, Sub-S; Scoring: manual or auto; real-time and post-mission feedback; voice RTKN; Debrief: Local and remote PC compatibility</td>
<td>The NWTRC has no inherent ASW instrumentation. All TSPI and EC&amp;C are either from the Naval Tactical Operations Planning System or the Joint National Training Capability.</td>
<td>The lack of instrumentation has very little impact on the limited ASW operations that occur in the NWTRC.</td>
<td>None</td>
<td>NA</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>OPFOR System</strong></td>
<td>1 live surface combatant; 1 live fixed or rotary-wing aircraft, EC 1 threat level</td>
<td>The NWTRC does not contain any dedicated OPFOR surface combatants or aircraft.</td>
<td>The OPFOR for ASW events in the NWTRC is worked out by other Fleet or Foreign (Canadian Forces) assets through liaison with Flight International for OPFOR aircraft.</td>
<td>None</td>
<td>NA</td>
<td>N/A</td>
</tr>
<tr>
<td>Operational Elements</td>
<td>RCD Defined Capability</td>
<td>Threshold/Objective Assessment</td>
<td>Shortfall Impact</td>
<td>Investment Plan</td>
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</tr>
<tr>
<td><strong>Airspace</strong></td>
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<tr>
<td></td>
<td>24 hour window; 100NM x 100NM Surface to 60K’ AGL</td>
<td>The at-sea warning areas associated with the Pacific Northwest OPAREA meet the full requirements of the RCD for airspace.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
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</tr>
<tr>
<td></td>
<td>24 hour window; 100NM x 100NM OPAREA</td>
<td>The at-sea warning areas associated with the Pacific Northwest OPAREA meet the full requirements of the RCD for airspace.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td><strong>Undersea Space</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>24 hour window; 100NM x 100NM OPAREA</td>
<td>The at-sea warning areas associated with the Pacific Northwest OPAREA meet the full requirements of the RCD for airspace.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td><strong>System of Systems</strong></td>
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</tr>
<tr>
<td><strong>Communications System</strong></td>
<td>2 dedicated EC&amp;C circuits; At least 1 2-D, 3-D, and in the Joint National Training Capability</td>
<td>There are no communications systems in the NWTRC which serve the offshore areas of the complex to support ASW.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Target System</strong></td>
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<tr>
<td></td>
<td>At least 1 stationary and 1 towed or self-propelled target; Remotely controlled or programable target with threat specific signature replication. Target must be cleared for engagement with live ASW platform.</td>
<td>The NWTRC does not have any inherent ASW training in the complex. Surface ships have the ability to conduct live ASW training in the area. The NWTRC does not have any inherent capability to support ASW training in the offshore areas. The NWTRC does not have any inherent capability to support ASW training in the offshore areas.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Instrumentation System</strong></td>
<td>Tracking TSPI: High Fidelity 12-6 Blue and 4 OPFOR aircraft; Low Fidelity 14 2-D and 3-D platforms and 2 platforms; M&amp;S; Scoring: table or auto real-time and post-mission feedback, voice RTKN, External</td>
<td>The NWTRC lacks any inherent capability to support ASW training in the offshore areas.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td><strong>OPFOR System</strong></td>
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<tr>
<td></td>
<td>At least 2 live, Virtual, or Constructive surface combatants; At least 2 live, Virtual, or Constructive fixed- or rotary-wing aircraft (at least 1 live);</td>
<td>The OPFOR for ASW events in the NWTRC is usually provided by other Fleet or foreign (Canadian Forces) assets.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
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</table>
### Northwest Training Range Complex

#### Range Complex Management Plan

<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Threshold/Objective Assessment</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Past Investment Plan Threshold/Objective Assessment</th>
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</thead>
<tbody>
<tr>
<td><strong>Operational Elements</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Airspace</strong></td>
<td>4 hour window; 50NM²; 1 UTR; 1 ATC</td>
<td>The area covers a small portion of the strategic area associated with the RCD but meets the requirement of the RCD; A UTR exists only at remote range areas.</td>
<td>No impact</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td>4 hour window; 50NM²; 1 UTR; 1 ATC</td>
<td>The Pacific Northwest OPAREA more than meets the requirement of the RCD for sea space although it does not have a fully functional UTR (a desired but not required capability). A UTR exists at remote range areas.</td>
<td>No impact</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Undersea Space</strong></td>
<td>4 hour window; 50NM²; 1 UTR</td>
<td>The undersea space associated with the Pacific Northwest OPAREA meets all the requirements of the RCD except the requirement for a UTR. A UTR exists at remote range areas.</td>
<td>No impact</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>System of Systems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communications System</strong></td>
<td>2 dedicated EAC circuits; 2 EC&amp;C circuits</td>
<td>There is no communications system in the NWTRC that covers the OPAREA.</td>
<td>No Impact</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Target System</strong></td>
<td>1 L target on magnetic signature and acoustic signature replication in both broad and narrow bands</td>
<td>There is no target system in the NWTRC that covers the OPAREA.</td>
<td>No Impact</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td><strong>Instrumentation System</strong></td>
<td>2-D, 3-D</td>
<td>There is no instrumentation system in the NWTRC that covers the OPAREA.</td>
<td>No Impact</td>
<td>None</td>
<td>NA</td>
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</table>

#### Anti-Submarine Warfare (ASW Training)

<table>
<thead>
<tr>
<th>Basic Priority</th>
<th>Threat/Assessment</th>
<th>Shortfall/Impact</th>
<th>Investment Plan</th>
<th>Past Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Priority 1</strong></td>
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<tr>
<td><strong>ASW Training</strong></td>
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<tr>
<td><strong>Basic</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>OPFOR</strong></td>
<td>1 L threat submarine</td>
<td>The OPFOR for ASW training within the NWTRC is usually provided by other Fleet units or foreign forces.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Range Attributes</td>
<td>RCD Defined Capability</td>
<td>Threshold/Objective Assessment</td>
<td>Shortfall Impact</td>
<td>Investment Plan</td>
<td>Post Investment Plan Threshold/Objective Assessment</td>
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</tr>
<tr>
<td><strong>Airspace</strong></td>
<td>12 hour window in a 500NM² area surface to 1,000 ft AGL, preferred, but not required, that includes portion of SBA over an underwater training range (UTR)</td>
<td>The US Navy operational area associated with the Pacific Northwest OFA meets the requirement of the RCD, except that there is no UTR beneath the airspace. A UTR exists at Nanoose, Range and is capable of supporting intermediate level training.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>12 hour window in a 500NM² area surface to 1,000 ft AGL, preferred, but not required, that includes portion of SBA over an underwater training range (UTR)</td>
<td>The Pacific Northwest OFA meets the requirements of the RCD for sea space although it does not have a fully functional UTR (desired, but not required capability). A UTR exists at Nanoose Range and is capable of supporting intermediate level training.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td>12 hour window in a 500NM² area surface to 1,000 ft AGL, preferred, but not required, that includes portion of SBA over an underwater training range (UTR)</td>
<td>There is no communication system in the NWTRC that serves the offshore areas outside the complex in support of ASW operations. The lack of ASW communications coverage for the OFRDAE has little effect on intermediate-level events which occur within the NWTRC.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>12 hour window in a 500NM² area surface to 1,000 ft AGL, preferred, but not required, that includes portion of SBA over an underwater training range (UTR)</td>
<td>There is no communication system in the NWTRC that serves the offshore areas outside the complex in support of ASW operations. The lack of ASW communications coverage for the OFRDAE has little effect on intermediate-level events which occur within the NWTRC.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Undersea Space</strong></td>
<td>12 hour window in a 500NM² area surface to 1,000 ft AGL, preferred, but not required, that includes portion of SBA over an underwater training range (UTR)</td>
<td>There is no communication system in the NWTRC that serves the offshore areas outside the complex in support of ASW operations. The lack of ASW communications coverage for the OFRDAE has little effect on intermediate-level events which occur within the NWTRC.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>System of Systems</strong></td>
<td>Communications System</td>
<td>2 dedicated EC and 5 dedicated OC circuits, with secure voice communications including encryption. DC circuits must support voice communications with airborne, surface, and subsurface participants. At least 4 dedicated data transfer networks to link the communication centers of operations and reporting systems (circuit participants are not connected to EC or OC circuits).</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Tracking/ISR</td>
<td>High Probability 34 up to 6 small Ilke and 2 or Opfor, 6 medium tracks - 12 small Ilke and 2 or Opfor sub, 12 medium Ilke and 2 or Opfor sub, 3 large Ilke and 2 or Opfor sub, 2 small Opfor, 1 medium Opfor, 1 large Opfor, 1 UUV/UCV</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Instrumentation System</td>
<td>At least 4 L, V, or C underwater maneuvering targets. At least one of the targets must be L recoverable or expendable target capable of generating or replicating the magnetic signature and associated acoustic signature of current and anticipated threats in both broad and narrow band.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>OPFOR System</td>
<td>At least 4 L, V, or C underwater maneuvering targets. At least one of the targets must be L recoverable or expendable target capable of generating or replicating the magnetic signature and associated acoustic signature of current and anticipated threats in both broad and narrow band.</td>
<td>No impact</td>
<td>None</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### Operational Elements

#### Airspace

<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
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<th>Investment Plan</th>
<th>Past Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-hour window, 50NM²; Surface to 5K' AGL</td>
<td>The Admiralty Bay restricted area (R-6701) of the NWTRC which supports aerial mining, does not meet the RCD requirement for area. R-6701 has 21nm² of area vice the 50nm² requirement. Other airspace over water in the complex meets the RCD requirement. However, should the requirement emerge, the Admiralty Bay Mining Range should be considered for development of a mine target system.</td>
<td>No Impact</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

#### Sea Space

<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Past Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-hour window, 50NM²; Operating Area</td>
<td>The Admiralty Bay area of the NWTRC which supports aerial mining, does not meet the RCD requirement for area (21nm² of area vice the 50nm² requirement). Open ocean sea space in the complex meets the RCD requirement but will not allow for scored mining. MCM training is conducted in various smaller areas throughout Puget Sound.</td>
<td>None</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

#### Undersea Space

<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
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<th>Past Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-hour window, 50NM²; Varying bottom types; Varying depths from surf zone to 600 ft; UTR preferred</td>
<td>The Admiralty Bay area of the NWTRC which supports aerial mining, does not meet the RCD requirement for area (21nm² of area vice the 50nm² requirement). Open ocean sea space in the complex meets the RCD requirement but will not allow for scored mining. MCM training is conducted in various smaller areas throughout Puget Sound.</td>
<td>None</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

### System of Systems

#### Communications System

<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Past Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 dedicated EC&amp;C circuits; 2 dedicated OC circuits (Objective); 2 DC circuits (threshold)</td>
<td>NAS Whidbey Island has communications systems which allow NAS Whidbey Operations personnel to communicate constantly with airborne aircraft operating in the vicinity of the Admiralty Bay for aerial mining operations. The complex lacks the number (five in total) of circuits required for MIW operations.</td>
<td>Due to the limited nature of aerial mining, the lack of communications has little effect on operations within the complex.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

#### Target System

<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Past Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only 15 non-instrumented target shapes required (Objective – 30 non-instrumented target shapes); Only 10 instrumented target shapes required (Objective – minimum 20 instrumented target shapes)</td>
<td>The NWTRC lacks the instrumented mine shapes required to support MCM operations by Airborne or Surface Based platforms, which is not an area required for the complex to support.</td>
<td>The complex lacks instrumented mine shapes or TSPI instrumentation required to support MCM operations by Aviation or Surface Based platforms, which is not an area required for the complex.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

#### Instrumentation System

<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Past Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only 10 non-instrumented mine shapes required (Objective – 20 non-instrumented mine shapes); Only 10 instrumented mine shapes required (Objective – minimum 20 instrumented mine shapes)</td>
<td>The NWTRC lacks the instrumented mine shapes required to support MCM operations by Airborne or Surface Based platforms, which is not an area required for the complex.</td>
<td>The complex lacks instrumented mine shapes or TSPI instrumentation required to support MCM operations by Aviation or Surface Based platforms, which is not an area required for the complex.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

### OPFOR System

<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Past Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-hour window, 50NM²; Surface to 5K' AGL</td>
<td>TIPST The NWTRC lacks the instrumented mine shapes or TSPI instrumentation required to support MCM operations by Airborne or Surface Based platforms, which is not an area required for the complex.</td>
<td>The complex lacks the capability to support MCM operations by Airborne or Surface Based platforms, which is not an area required for the complex.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
### Northwest Training Range Complex

#### Range Complex Management Plan

<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Threshold/Objective Assessment</th>
<th>Shortfall Impact</th>
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<th>Post Investment Plan Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operational Elements</strong></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Airspace</strong></td>
<td>12 hour window in a 10NM² area from surface to 5000 ft. AGL.</td>
<td>The Admiralty Bay restricted area (R-6701) of the NWTRC which supports aerial mining, does not meet the RCD requirement for area. R-6701 has 21nm² of area vice the 50nm² requirement. Other airspace over water in the complex meets the RCD requirement. However, should the requirement exist, the Admiralty Bay Mining Range should be considered for development and expansion.</td>
<td>No Impact</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td>12 hour window on a 10NM² area. (Must allow recovery). Sea Space should be adjacent or in proximity to 1 or more prominent land formations that can be used by airborne and surface ships as geo-reference points during target avoidance.</td>
<td>The complex currently supports only aerial mining. However, should the requirement exist, the Admiralty Bay Sea Space may be considered. Open ocean sea space in the complex meets the RCD requirement but will not allow for scored mining. MCM training is conducted in various smaller areas throughout Puget Sound.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Undersea Space</strong></td>
<td>12 hour window on a 10NM² area.</td>
<td>The Admiralty Bay area of the NWTRC which supports aerial mining, does not meet the RCD requirement for area (21nm² of area vice the 100nm² requirement).</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>System of Systems</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communications System</strong></td>
<td>Different radio channels, at least 1 of which must support secure communications including operational voice. At least 1 dedicated OC circuit (objective), or 2 OC circuits (threshold) at least 1 of which must support secure communications. OC circuits must support communication with airborne, surface, submarine, and NSW participants. At least 1 OC circuit.</td>
<td>The NWTRC has very few mine target shapes and it does not have a mine avoidance range. Mine Target shapes are used in mine neutralization operations. The complex lacks the number (30 in total) of circuits required for MCM operations.</td>
<td>None</td>
<td>NA</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Target System</strong></td>
<td>At least 30 non-instrumented and 20 instrumented target shapes, to include a combination of bottom mines, moored mines, and false targets. Each target includes a single shape that represents MCM operations. Existing shapes are not sufficient to meet training requirements. A minimum of 50 non-instrumented and 25 instrumented mine target shapes is necessary for training. The complex lacks the instrumented mine target shapes required to support MCM operations.</td>
<td>The NWTRC lacks the instrumented mine target shapes required to support MCM operations.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Instrumentation System</strong></td>
<td>Tracking FVH: High Fidelity: 30 vessels for the typical mast scenario and an additional 10 vessels for the typical aircraft scenario. Low Fidelity: 30 vessels for the typical mast scenario and an additional 10 vessels for the typical aircraft scenario.</td>
<td>The NWTRC lacks the instrumented mine target shapes required to support MCM operations.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>OPFOR System</strong></td>
<td>At least 2 L fixed-or rotary-wing threat aircraft.</td>
<td>The NWTRC lacks the instrumented mine target shapes required to support MCM operations.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
## Operational Elements

### Airspace
- **45 minute range period; 50NM x 60NM (Surface to 30K AGL)**: The offshore airspace associated with W-237 meets the RCD Requirement. The Okanogan and Roosevelt MOAs, when combined with their associated high altitude Air Traffic Control Assigned Airspace (ATCAA) meet the airspace requirement. Flare expenditure is allowed overland but only in designated SUA and above 100 feet TMA (no hot spots).

### Sea Space
- **1 hour range period; 20NM x 30NM**: The sea space associated with the NWTRC meets the RCD requirement in terms of dimension and availability. However, the sea space is not situated such that existing land-based EW emitters can stimulate surface and subsurface combatants' onboard equipment. Ships must travel to other ranges to complete EW training. Ships may wish to use other ranges to complete EW training.

### Undersea Space
- **1 hour range period; 20NM x 30NM**: The undersea space associated with the NWTRC meets the RCD requirement.

### Land Area
- **45 minute range period; 10NM x 10NM**: The NWTRC does not have any dedicated land area within the complex with the exception of the Naval Weapons Training Facility at Boardman (approximately 6 x 12 nm), which does not meet the RCD requirement for 20 x 20 nm dimensions. The Boardman area does not routinely support EC operations.

## System of Systems

### Communications System
- **Two dedicated EC/C circuits; At least 1 EC/C circuit dedicated to secure communications**: NA/Whidbey Island lacks a secure communications circuit capable of communications with airborne, surface and subsurface participants.

### Target System
- **Multiple, geographically separated sites arrayed per OPFOR employment; Visually significant, replicating EOB equipment and employment visual cues; Live target not required at every location (Objective - at least 1 target for live weapons including ARM)**: There is one AN/FSQ-T22 Remote Emitter Signal Simulator located at Outlying Field (OLF) Coupeville. VAQ, VP and VQ aircrew conduct electronic surveillance measure (ESM) and Electronic Attack (EA) training in the Darrington OPAREA, using this FSQ emitter. Aircrews are unable to see threats from multiple axes and conduct much of their training at remote locations, including Fallon and SOCAL.

### Instrumentation System
- **Training TPS**: The AN/FSQ-T22 Training TPS is available for training at the AN/FSQ-T22 Electronic Combat Training Area (ECTA) in the Darrington OPAREA, using the FSQ-70 and FSQ-72 TPS.

### OPFOR System
- **EC threat level 1**: No impact.

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### Range Complex Management Plan

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<tbody>
<tr>
<td><strong>Airspace</strong></td>
<td>45 minute range period; 50NM x 60NM (Surface to 30K AGL)</td>
<td>The offshore airspace associated with W-237 meets the RCD Requirement. The Okanogan and Roosevelt MOAs, when combined with their associated high altitude Air Traffic Control Assigned Airspace (ATCAA) meet the airspace requirement. Flare expenditure is allowed overland but only in designated SUA and above 100 feet TMA (no hot spots).</td>
<td>No Impact</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td>1 hour range period; 20NM x 30NM</td>
<td>The sea space associated with the NWTRC meets the RCD requirement in terms of dimension and availability. However, the sea space is not situated such that existing land-based EW emitters can stimulate surface and subsurface combatants' onboard equipment. Ships must travel to other ranges to complete EW training. Ships may wish to use other ranges to complete EW training.</td>
<td>Ship may wish to use other ranges to complete EW training.</td>
<td>Acquire an EW simulator to be located along the coast so that ship underway can receive simulated electronic signals.</td>
<td>No Impact</td>
<td>None</td>
</tr>
<tr>
<td><strong>Undersea Space</strong></td>
<td>1 hour range period; 20NM x 30NM</td>
<td>The undersea space associated with the NWTRC meets the RCD requirement.</td>
<td>No Impact</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Land Area</strong></td>
<td>45 minute range period; 10NM x 10NM</td>
<td>The NWTRC does not have any dedicated land area within the complex with the exception of the Naval Weapons Training Facility at Boardman (approximately 6 x 12 nm), which does not meet the RCD requirement for 20 x 20 nm dimensions. The Boardman area does not routinely support EC operations.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>System of Systems</strong></td>
<td><strong>Communications System</strong></td>
<td>NA/Whidbey Island lacks a secure communications circuit capable of communications with airborne, surface and subsurface participants.</td>
<td>This EC Operation which occurs in the NWTRC is performed jointly by EA-6B aircraft and is facilitated by communications available in the completing of required training.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Target System</strong></td>
<td>There is one AN/FSQ-T22 Remote Emitter Signal Simulator located at Outlying Field (OLF) Coupeville. VAQ, VP and VQ aircrew conduct electronic surveillance measure (ESM) and Electronic Attack (EA) training in the Darrington OPAREA, using the FSQ-70 and FSQ-72 TPS.</td>
<td>Aircrews are unable to see threats from multiple axes and conduct much of their training at remote locations, including Fallon and SOCAL.</td>
<td>Acquire Stream targets and mobile emitters for use of NWSTF Battlezone. Acquire another emitter to be located along the coast of the Pacific Ocean.</td>
<td>No Impact</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Instrumentation System</strong></td>
<td>Training TPS: High Fidelity 5 (Up to 4 friendly a/c plus 1 captive training ARM); Low Fidelity 1 (1 surface or subsurface platform)</td>
<td>The AN/FSQ-T22 Training TPS is available for training at the AN/FSQ-T22 Electronic Combat Training Area (ECTA) in the Darrington OPAREA, using the FSQ-70 and FSQ-72 TPS.</td>
<td>No Impact</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>OPFOR System</strong></td>
<td>EC threat level 1</td>
<td>There is one AN/FSQ-T22 Remote Emitter Signal Simulator located at Outlying Field (OLF) Coupeville. VAQ, VP and VQ aircrew conduct electronic surveillance measure (ESM) and Electronic Attack (EA) training in the Darrington OPAREA, using the FSQ-70 and FSQ-72 TPS.</td>
<td>No Impact</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### Operational Elements

#### Airspace

- N/A (Intermediate and Advanced Level EC training is conducted in conjunction with Intermediate and Advanced Levels of training in the other PRMAR range functions)

#### Sea Space

- N/A (Intermediate and Advanced Level EC training is conducted in conjunction with Intermediate and Advanced Levels of training in the other PRMAR range functions)

#### Undersea Space

- N/A (Intermediate and Advanced Level EC training is conducted in conjunction with Intermediate and Advanced Levels of training in the other PRMAR range functions)

#### Land Area

- N/A (Intermediate and Advanced Level EC training is conducted in conjunction with Intermediate and Advanced Levels of training in the other PRMAR range functions)

### System of Systems

#### Communications System

- N/A (Intermediate and Advanced Level EC training is conducted in conjunction with Intermediate and Advanced Levels of training in the other PRMAR range functions)

#### Target System

- N/A (Intermediate and Advanced Level EC training is conducted in conjunction with Intermediate and Advanced Levels of training in the other PRMAR range functions)

#### Instrumentation System

- All Intermediate Level EC training requirements are reflected in the Intermediate Level Instrumentation requirements for all other range functions

#### OPFOR System

- All Intermediate Level EC training requirements are reflected in the Intermediate Level OPFOR requirements for all other range functions
### Northwest Training Range Complex Management Plan

#### Strike Warfare (STW Training)  
**Basic Priority 2**

<table>
<thead>
<tr>
<th>Range Attributes</th>
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<td><strong>Operational Elements</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Airspaces</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>NWTRC 2016 range and 2017 expansion should meet RCD for Intermediate level training.</td>
<td>Range dimensions: 100 nm x 100 nm; altitude: 20,000 feet. The range is cleared for full range operations.</td>
<td>The Northwest Training Range Complex Management Plan indicates that the range meets RCD requirements for airspaces.</td>
<td>Impact is minimal because there are no units that currently rely on Boardman to achieve Intermediate level STW training. Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability.</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Sea Spaces</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>NWTRC 2016 range and 2017 expansion should meet RCD for Intermediate level training.</td>
<td>Range dimensions: 100 nm x 100 nm; altitude: 20,000 feet. The range is cleared for full range operations.</td>
<td>The Northwest Training Range Complex Management Plan indicates that the range meets RCD requirements for sea spaces.</td>
<td>Impact is minimal because there are no units that currently rely on Boardman to achieve Intermediate level STW training. Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability.</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Underwater Spaces</strong></td>
<td></td>
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</tr>
<tr>
<td>NWTRC 2016 range and 2017 expansion should meet RCD for Intermediate level training.</td>
<td>Range dimensions: 100 nm x 100 nm; altitude: 20,000 feet. The range is cleared for full range operations.</td>
<td>The Northwest Training Range Complex Management Plan indicates that the range meets RCD requirements for underwater spaces.</td>
<td>Impact is minimal because there are no units that currently rely on Boardman to achieve Intermediate level STW training. Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability.</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Land Area</strong></td>
<td></td>
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</tr>
<tr>
<td>NWTRC 2016 range and 2017 expansion should meet RCD for Intermediate level training.</td>
<td>Range dimensions: 100 nm x 100 nm; altitude: 20,000 feet. The range is cleared for full range operations.</td>
<td>The Northwest Training Range Complex Management Plan indicates that the range meets RCD requirements for land areas.</td>
<td>Impact is minimal because there are no units that currently rely on Boardman to achieve Intermediate level STW training. Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability.</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>System of Systems</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communications System</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>NWTRC 2016 range and 2017 expansion should meet RCD for Intermediate level training.</td>
<td>Range dimensions: 100 nm x 100 nm; altitude: 20,000 feet. The range is cleared for full range operations.</td>
<td>The Northwest Training Range Complex Management Plan indicates that the range meets RCD requirements for communications systems.</td>
<td>Impact is minimal because there are no units that currently rely on Boardman to achieve Intermediate level STW training. Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability.</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Target System</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>NWTRC 2016 range and 2017 expansion should meet RCD for Intermediate level training.</td>
<td>Range dimensions: 100 nm x 100 nm; altitude: 20,000 feet. The range is cleared for full range operations.</td>
<td>The Northwest Training Range Complex Management Plan indicates that the range meets RCD requirements for target systems.</td>
<td>Impact is minimal because there are no units that currently rely on Boardman to achieve Intermediate level STW training. Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability.</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Instrumentation System</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>NWTRC 2016 range and 2017 expansion should meet RCD for Intermediate level training.</td>
<td>Range dimensions: 100 nm x 100 nm; altitude: 20,000 feet. The range is cleared for full range operations.</td>
<td>The Northwest Training Range Complex Management Plan indicates that the range meets RCD requirements for instrumentation systems.</td>
<td>Impact is minimal because there are no units that currently rely on Boardman to achieve Intermediate level STW training. Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability.</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>OPFOR System</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWTRC 2016 range and 2017 expansion should meet RCD for Intermediate level training.</td>
<td>Range dimensions: 100 nm x 100 nm; altitude: 20,000 feet. The range is cleared for full range operations.</td>
<td>The Northwest Training Range Complex Management Plan indicates that the range meets RCD requirements for OPFOR systems.</td>
<td>Impact is minimal because there are no units that currently rely on Boardman to achieve Intermediate level STW training. Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability.</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
## Strike Warfare (STW Training) Intermediate

**Range Complex Management Plan**

### Range Attributes

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<tr>
<th>Operational Elements</th>
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<tr>
<td><strong>Airspace</strong></td>
<td>Ranges do not meet RCD requirements for area or altitude at basic or intermediate levels. Bardrian is the only A-G target in the NWTRC, its airspace is approximately 1500 x 2000 or a totaling 300,000 feet. The range lacks multiple geographically separated targets. Supersonic operations are not allowed. Due to the limited nature of strike warfare, the lack of sufficient range dimensions and quantity of ranges has little effect on current operations within the complex. However, the EA-18G will be based at Whidbey Island and when the small gaps on A-G capability (mentioned in later models), aircraft will require a fully capable threat environment. STW range.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>Sea Space</strong></td>
<td>Ranges do not meet RCD requirements for area or altitude at basic or intermediate levels. Bardrian is the only A-G target in the NWTRC, its airspace is approximately 1500 x 2000 or a totaling 300,000 feet. The range lacks multiple geographically separated targets. Supersonic operations are not allowed.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>Land Area</strong></td>
<td>Ranges do not meet RCD requirements for area or altitude at basic or intermediate levels. Bardrian is the only A-G target in the NWTRC, its airspace is approximately 1500 x 2000 or a totaling 300,000 feet. The range lacks multiple geographically separated targets. Supersonic operations are not allowed. Due to the limited nature of strike warfare, the lack of sufficient range dimensions and quantity of ranges has little effect on current operations within the complex. However, the EA-18G will be based at Whidbey Island and when the small gaps on A-G capability (mentioned in later models), aircraft will require a fully capable threat environment. STW range.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>System of Systems</strong></td>
<td>Ranges do not meet RCD requirements for area or altitude at basic or intermediate levels. Bardrian is the only A-G target in the NWTRC, its airspace is approximately 1500 x 2000 or a totaling 300,000 feet. The range lacks multiple geographically separated targets. Supersonic operations are not allowed. Due to the limited nature of strike warfare, the lack of sufficient range dimensions and quantity of ranges has little effect on current operations within the complex. However, the EA-18G will be based at Whidbey Island and when the small gaps on A-G capability (mentioned in later models), aircraft will require a fully capable threat environment. STW range.</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

### Communications System

| Communications System | Range communications at Bardrian consists of 1 UHF and 1 VHF radio for aircraft communication, 1 FM radio for ground communication on the range. These communications do not support multiple simultaneous events. Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability. | None | N/A | N/A | N/A |

### Target System

| Target System | Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability. | None | N/A | N/A | N/A |

### Instrumentation System

| Instrumentation System | Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability. | None | N/A | N/A | N/A |

### OPFOR System

<p>| OPFOR System | Impact could become Moderate when the EA-18G arrives in Whidbey with an A-G capability. | None | N/A | N/A | N/A |</p>
<table>
<thead>
<tr>
<th>Range Attributes</th>
<th>RCD Defined Capability</th>
<th>Threshold/Objective Assessment</th>
<th>Shortfall Impact</th>
<th>Investment Plan</th>
<th>Post Investment Plan</th>
<th>Threshold/Objective Assessment</th>
<th>Outstanding Shortfall Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airspace</td>
<td>Normally not required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sea Space</td>
<td>Normally not required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undersea Space</td>
<td>Normally not required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Area</td>
<td>Small arms ranges capable of accommodating MK-46 and MK-48 machine guns</td>
<td>NWTRC meets RCD defined capabilities</td>
<td>No Impact</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>System of Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communications System</td>
<td>1 EC&amp;C circuits; At least 3 OC circuits to support communications with ground, airborne and surface participants</td>
<td>The preponderance of NSW training is either underwater or at the Kodiak Cold Weather Training Facility. Lack of these communications systems has little impact on NSW training.</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Target System</td>
<td>NSI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrumentation System</td>
<td>Not normally required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPFOR System</td>
<td>Individual Free Option Simulator (Rules of Engagement simulator)</td>
<td>Not required</td>
<td>No Impact</td>
<td>None</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
The positioning of the airspace to the land areas has little effect on those NSW operations which occur in the NWTRC. Raising the altitude of the restricted area associated with NWSTF Boardman to FL250 should be considered.

The undersea space meets the area requirements of the RCD but does not start until 3nm from the beachfront. The lack of ability to use higher N.E.W. in EOD/MCM operations has an impact on the realism of these operations.

Pursue a live fire capability at Kodiak Island that would allow firing 7.62mm and 5.56mm weapons.

The lack of land area, maneuver area, firing range, and a MOUT has a moderate impact on NSW training events that occur in the NWTRC.

System of Systems

Communications System

Managed 2 EAC circuits: C2AC (to support A/G and land-based secure communications). Only 1 (of 2 circuits) acquired as a result. All 2 circuits were not acquired. Secure (C2) communications with ground, airborne and surface participants.

The preponderance of NWTR training is either undersea or at the Kodiak Cold War Training Site/Center. Lack of these communications systems has little impact on NWTR training.

No impact

None

Target System

Scattered beach obstacles and fortified beach or near-shore defenses;

The NWTR lacks any beach obstacles or fortified beach or near-shore defenses. There is no live firing range either in the Puget Sound area or at Kodiak Island

The lack of firing range has a moderate impact on NWTR training events that occur in the NWTRC.

Pursue a live fire capability that would allow for MOUT to conduct the training at the designated operation plans and the live fire range.

Pursue a live fire capability at Kodiak Island that would allow firing 7.62mm and 5.56mm weapons.

Development of a MOUT at Boardman and a live fire capability near the Puget Sound, and another live fire range at Kodiak Island would reduce impact to minimal.

No significant shortfalls would remain.

Intrusion/Control System

Tracking System: High Fidelity No; Low Fidelity 5

NWTR/Systems (Dabob Bay, SWIFT) meet underwater tracking capability requirements. All other requirements are unmet. Minimal impact

None

NA

OPFOR System

A.L. I., U. or Company-sized ground forces; A.L. I., U. or Company-sized armored units (armor and/or mechanized vehicles) and 1 FL or 2 battalions at echelon 2 or higher

The NWTR lacks any dedicated NWTR opponent forces and lacks the ability to create these forces virtually.

The lack of an OPFOR has little impact on the layout of the live firing range operations which occur in the NWTRC.

None

NA

NA
# APPENDIX E

## PERSONNEL DIRECTORY

**COMPACFLT**

Fleet Environmental  
Pacific Northwest Liaison  
(360) 315-5092

**Commander, Navy Region Northwest**  
Range Support  
(360) 257-3315

**Engineering Field Activity, Northwest**

Environmental  
TAP Navy Technical Representative  
(360) 396-0927

**NAS Whidbey Island**

Commanding Officer  
(360) 257-2345  
Executive Officer  
(360) 257-2345

**Operations**

Operations Officer  
(360) 257-6655  
Schedules Officer  
(360) 257-2133

**Environmental**

Ranges  
(360) 257-4025  
Navy Region NW Range Environmental  
(360) 257-5320

**Naval Special Warfare Center**

Advanced Training Command (July 2006)  
Commanding Officer  
(619) 628-1967

**Naval Undersea Warfare Center, Keyport**

**Operations**

Test and Evaluation  
(360) 315-2272  
Special Projects  
(360) 396-1420  
Range Scheduling  
(360) 396-2313  
Range Manager  
(360) 396-2893

**Environmental**

Environmental Planner  
(360) 315-2268  
NEPA  
(360) 396-5430
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APPENDIX F

BIBLIOGRAPHY


Department of Defense, 1996. DoD Instruction Number 4715.2, DoD Regional Environmental Coordination. 3 May 1996.


Department of the Navy, date unknown. *Commander Second Fleet Operations Order 201 (COMSECONDFLT OPORD 201)*. Commander Second Fleet, Norfolk, Virginia. Date unknown.
Department of Transportation, U.S. Coast Guard. 2000. Permit for the Use of Real Property by Other Federal Agencies. Lease of Kodiak Cold Weather Training Facility by U.S. Coast Guard to Naval Special Warfare Center (c/o US Navy EFA NW). Permit Number DTCGZ7113301RP005P. December 7, 2000.


Street, Hayden, 2005. Personal communication between Jeffery Butts (Parsons) and Hayden Street (CNRNW).


SUPPLEMENTAL OUTREACH INFORMATION

LIST OF KEY STAKEHOLDERS

This section provides a list of the key stakeholders for the WIRC. This is not a comprehensive list of all elected officials, government agencies, and community, environmental, and Tribal groups in Washington. The information below is meant to be illustrative of those groups that are interested and active in military affairs and operations with respect to economic, safety, environmental, and encroachment issues or Tribal concerns.

Elected Officials

Federal – Washington

• Washington Senators

http://www.senate.gov/

717 Hart Senate Office Building
Washington, D.C. 20510
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and
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Everett, WA 98201
(425) 303-0114

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o District 1

403 Cannon House Office Building
Washington, D.C. 20515
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and
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Mountlake Terrace, WA 98043
(425) 640-0233

o District 2

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and
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(425) 252-3188

o District 5

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and
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Spokane, WA 99201
(509) 353-2374
or
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or
29 S. Palouse Street
Walla Walla, WA 99362
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State of Washington

- Governor of Washington
  Office of the Governor
  P.O. Box 40002
  Olympia, WA 98504-0002
  (360) 902-4111
  http://www.governor.wa.gov/

- Executive Policy Advisor
  Governor's Executive Policy Office
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  Olympia, WA 98504

- Washington State Senator

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    Olympia, WA 98504-0004
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    Olympia, WA 98504-0410
    (360) 786-7618

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  and
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  and
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  (360) 533-9477

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Clallam County

- Clallam County Commissioners
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  Port Angeles, WA 98362
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  http://www.clallam.net/g/CCMRC/

Jefferson County

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  Port Angeles, WA 98368
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  http://www.co.jefferson.wa.us/

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  Port Angeles, WA 98362
  (360) 417-2361
  http://www.clallammrc.org

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  Jefferson County Board of Commissioners
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  Port Townsend, WA 98368
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17 • Commissioner District No. 1
18 Grays Harbor County Board of
19 Commissioners
20 100 W. Broadway, Suite 1
21 Montesano, WA 98563

22 • Commissioner District No. 2
23 Grays Harbor County Board of
24 Commissioners
25 101 W. Broadway, Suite 1
26 Montesano, WA 98563

27 • Commissioner District No. 3
28 Grays Harbor County Board of
29 Commissioners
30 101 W. Broadway, Suite 1
31 Montesano, WA 98563

32 • County Clerk
33 Grays Harbor Superior Court
34 102 W. Broadway, Suite 203
35 Montesano, WA 98563

36 • Mayor
37 City of Aberdeen
38 200 E. Market Street
39 Aberdeen, WA 98520

40 • Mayor
41 City of Hoquiam
42 711 Hill Avenue
43 Hoquiam, WA 98550
San Juan County

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  Friday Harbor, WA 98250
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Island County

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- Marine Resources Committee
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  (360) 679-7327
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  Bremerton, WA 98337

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  Puget Sound Regional Council – Kitsap
  County Cities/Towns
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  Seattle, WA 98104
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  http://www.co.whatcom.wa.us/executive/index.jsp

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  6 and
  7 636 Wild Iris Lane
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  14 Oregon State Representative
  15 District 1
  16 900 Court Street N.E., H-378
  17 Salem, OR 97301
  18 (503) 986-1401
  19 District 9
  20 900 Court Street N.E., H-292
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  23 and
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  27 Morrow County
  28 • Morrow County Seat
  29 100 Court Street
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  31 (541) 676-9061
  32 http://morrowcountyoregon.com/
  33 Lincoln County
  34 • Lincoln County Seat
  35 225 W. Olive Street
  36 Newport, OR 97365
  37 (541) 265-6611
  38 www.co.lincoln.or.us
  39 Coos County
  40 • Coos County
  41 250 N. Baxter
  42 Coquille, OR 97423
  43 (541) 396-6551
  44 http://www.co.coos.or.us/
  45

Curry County
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  Gold Beach, OR 97444
  (541) 247-6440

Douglas County
• Douglas County
  1036 S.E. Douglas Street
  Roseburg, OR 97470
  (541) 440-4323
  http://www.co.douglas.or.us/
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- California Senator
  112 Hart Senate Office Building
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  and
  1700 Montgomery Street, Suite 240
  San Francisco, CA 94111
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  Washington, D.C. 20510
  (202) 224-3841
  And
  One Post Street, Suite 2450
  San Francisco, CA 94104
  (415) 393-0707
  http://www.senate.gov/

State of California

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  Sacramento, CA 95814
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  State Capitol, Room 4081
  Sacramento, CA 95814
  (916) 651-4002
  and
  710 E Street, #150
  Eureka, CA 95501
  (707) 445-6508
- California State
  District 4
  State Capitol, Room 2054
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  (916) 651-4004
  and

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  Crescent City, CA 95531
  (707) 464-7204
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  http://www.co.humboldt.ca.us/
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- Governor of Alaska
  P.O. Box 110001
  Juneau, AK 99811-0001
  (907) 465-3500
  http://www.gov.state.ak.us/

- Alaska State Senator
  District R
  State Capitol, Room 103
  Juneau, AK 99801-1182
  (907) 465-4925
  and
  112 Mill Bay Rd.
  Kodiak, AK 99615
  (907) 486-4925

Kodiak Island Borough

- Kodiak Island Borough
  Jerome Selby, Mayor
  P.O. Box 1962
  Kodiak, AK 99615
  http://www.kib.co.kodiak.ak.us/index.php

Federal – Nevada

- Nevada U. S. Senator
  528 Hart Senate Office Building
  Washington, D.C. 20510
  (202) 224-3542
  and
  333 Las Vegas Boulevard South Suite 8016
Las Vegas, NV 89101
(702) 388-5020

Nevada U. S. Senator
356 Russell Senate Office Building
Washington, DC 20510
(202) 224-6244
and
333 Las Vegas Boulevard South Suite 8203
Las Vegas, NV 89101

• Nevada U.S. Representative, District 2
1023 Longworth House Office Building
Washington, D.C. 20515
(202) 225-6155

State of Nevada

• Governor of Nevada
Capitol Building 101 North Carson Street
Carson City, NV 89701
(775) 684-5670

• Nevada State Senator, Central Nevada Senatorial District
Nevada Senate
401 S. Carson Street
Carson City, NV 89701-4747
(775) 684-1442

• Nevada State Assemblyman, District 35
Nevada Assembly
401 S. Carson Street
Carson City, NV 89701-4747
(775) 237-7383

Churchill County

• County Manager
155 N. Taylor Street, Suite 153
Fallon, NV 89406
(775) 423-5136

• Planning Department
155 N. Taylor, Suite 194
Fallon, NV 89406
(775) 423-7627

City of Fallon

• Mayor
City Hall
55 W. Williams Avenue
Fallon, NV 89406
(775) 423-0167

• Public Works Department
City Hall
55 W. Williams Avenue
Fallon, NV 89406
(775) 423-0145
G.2 Regulatory and Government Agencies

Federal

- Federal Aviation Administration
  Western Pacific Region
  P. O. Box 92007
  Los Angeles, CA 90009-2007
  15000 Aviation Boulevard
  Lawndale, CA 90261
  (310) 725-3943
  http://www.faa.gov/other_visit/military

  The FAA manages surplus property transfers for airports, military base conversions, and the promotion of joint-use of existing military air bases. It also administers the Military Airport Program (MAP).

- Marine Environmental Support Office
  Space and Naval Warfare Systems Center D3621
  53475 Strothe Road
  San Diego, CA 92152-6326

- Marine Mammal Commission
  4340 East West Highway, Suite 905
  Bethesda, MD 20814
  (301) 504-0087
  http://www.mmc.gov/

  The Marine Mammal Commission is an independent agency of the U.S. Government created to provide independent oversight of the marine mammal conservation policies and programs being carried out by the federal regulatory agencies.

- National Oceanic and Atmospheric Administration
  o NOAA Fisheries – Marine Mammals
    Northwest Regional Office
    7600 Sand Point Way NE
    Seattle, WA 98115-0070
    (206) 526-6150
  o Regional Administrator
    National Marine Fisheries Service
    Northwest Regional Office
    7600 Sand Point Way NE
    Seattle, WA 98115-0070
    (206) 526-6150
    http://www.nwr.noaa.gov/

    The National Marine Fisheries Service’s mission is to provide stewardship of living marine resources through science-based conservation and management and the promotion of healthy ecosystems.

  o NOAA Fisheries, Washington Habitat Branch
    510 Desmond Drive SE, Suite 103
    Lacey, WA 98503
    (360) 753-7761
Olympic Coast National Marine Sanctuary
NOAA Marine Sanctuaries Division
115 East Railroad Ave.
Port Angeles, WA 98362
(360) 457-6622

Olympic Coast National Marine Sanctuary Advisory Council
115 East Railroad Ave. East, Suite 301 address corrected
Port Angeles, WA 98362
(360) 457-6622
http://www.ocnms.nos.noaa.gov/
http://www.ocnms.nos.noaa.gov/AboutUs/sac/welcome.html

The Sanctuary’s purpose is to protect, understand and communicate the importance of marine resources. The Sanctuary uses information obtained from research to enrich the American public and inform decision-makers. The Sanctuary Advisory Council is dedicated to balancing the diverse interests of citizens, organizations and partner agencies to make informed decisions that protect resources without unfairly hurting sanctuary users and stakeholders. Council members provide a service as subject experts, a sounding board for potential management decisions and spokespersons for the broader community.

National Park Service
http://www.nps.gov/olym/
The National Park Service preserves the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations.

National Park Service, Pacific West Region
One Jackson Center Suite 700
1111 Jackson Street
Oakland, CA 94607
(510) 817-1300

National Park Service, Olympic National Park
600 E. Park Ave.
Port Angeles, WA 98362

Olympic National Park
600 E. Park Ave.
Port Angeles, WA 98362

Pacific N.W. DOI Environmental Compliance Contact
DOI Office of Environmental Policy and Compliance
500 NE Multnomah Street, Suite 356
Portland, OR 97232
(503) 231-6157

U.S. Army Corps of Engineers
http://www.nww.uace.army.mil/
Provides vital services to the Army and the nation through water resources development; provides environmental restoration and management; building and sustainment of infrastructure; responds to disasters and provides engineering and contingency support during war.

U.S. Army Corps of Engineers
Northwestern Division
• U.S. Coast Guard – 13th District
  915 2nd Avenue, Suite 3584
  Seattle, WA 98174-1077
  (206) 220-7237
  The U. S. Coast Guard is a military, multi-mission, maritime service within the Department of Homeland Security. Its core role is to protect the public, the environment, and U.S. economic and security interests in any maritime region.

• U.S. Department of Agriculture
  http://www.usda.gov
  The Department of Agriculture provides leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management.

  o U.S. Forest Service
    http://www.fs.fed.us/r6/welcome.shtml
    The Forest Service manages public lands in national forests and grasslands.

    • Regional Forrester
      USDA Forest Service, Pacific Northwest Region
      P.O. Box 3623
      Portland, OR 97208

    • USDA Forest Service, Pacific Northwest Region
      Pacific Northwest Region
      1835 Black Lake Blvd SW
      Olympia, WA 98512-5623
      (360) 956-2300

• U.S. Department of the Interior
  http://www.doi.gov
  The Department of the Interior is the nation’s principal conservation agency.

  o Bureau of Reclamation
    Pacific Northwest Regional Office
    1150 North Curtis Road, Suite 100
    Boise, Idaho 83706-1234
    208-378-5012
    http://www.usbr.gov/pn/
    The goal of this regional office is to meet the increasing water demands of the Pacific Northwest while protecting the environment and the public's investment.

  o U.S. Fish & Wildlife Service
    http://www.fws.gov
The Fish & Wildlife Service works with others to conserve, protect, and enhance wildlife habitat and fish, wildlife, and plants.

- U.S. Fish & Wildlife Service, Pacific Region
  911 NE 11th Ave.
  Portland, OR 97232

- U.S. Fish & Wildlife Service, Pacific Region
  510 Desmond Drive SE, Suite 102
  Lacey, WA 98503
  (360) 753-9440

- Washington Maritime Wildlife Refuge Complex
  U.S. Fish & Wildlife Service
  33 S. Barr Rd
  Port Angeles, WA 98362

  o U.S. Geological Survey
    Western Region
    345 Middlefield Road
    Menlo Park, CA 94025, USA
    (650) 853-8300
    http://www.usgs.gov

  The Geological Survey is dedicated to the timely, relevant and impartial study of the landscape, natural resources and the natural hazards.

- U.S. Environmental Protection Agency
  www.epa.gov
  The U.S. EPA is dedicated to protecting human health and the environment.

  o U.S. EPA, Region 10
    Washington Operations Office
    300 Desmond Drive SE, Suite 102
    Lacey, WA 98503
    (260) 753-9457

  o U.S. EPA, Region 10 Office
    1200 Sixth Avenue
    Code OW-135
    Seattle, WA 98101

State of Washington

- Department of Agriculture
  1111 Washington Street SE
  P.O. Box 42560
  Olympia, WA 98504-2560
  (360) 902-1800
  http://agr.wa.gov/

  The Department of Agriculture serves the people of Washington State by supporting the agricultural community and promoting consumer and environmental protection.

- Department of Archaeology & Historic Preservation
  http://www.oahp.wa.gov/

  The Department of Archaeology & Historic Preservation advocates the preservation of
Washington’s irreplaceable historic, archaeological, and cultural resources – significant buildings, structures, sites, objects, and districts.

- Acting State Historic Preservation Officer
  Office of Archaeology and Historic Preservation
  111 West 21st Avenue, Box 48343SW
  Olympia, WA 98504

- Department of Archaeology & Historic Preservation
  1063 South Capitol Way, Suite 106
  Olympia WA 98501
  (360) 586-3065

- Department of Ecology
  P.O. Box 47600
  Olympia, WA 98504
  http://www.ecy.wa.gov/
  The Department of Ecology’s mission is to protect, preserve and enhance the State’s environment, and promote the wise management of air, land and water.

- Environmental Review Section
  Washington Department of Ecology
  P.O. Box 47703
  Olympia, WA 98504

- Shorelands and Environmental Assistance
  Washington Department of Ecology
  P.O. Box 47600
  Olympia, WA 98504

- Washington Department of Ecology
  Bellevue Regional Office
  3190 160th Ave. SE
  Bellevue, WA 98008

- Department of Fish and Wildlife
  1111 Washington St. SE
  Olympia, WA 98501
  (360) 902-2200
  http://wdfw.wa.gov/
  The mission of the Washington Department of Fish and Wildlife is to provide sound stewardship of fish and wildlife.

- Washington Fish and Wildlife Commission
  600 Capitol Way North
  Olympia, WA 98501-1091
  (360) 902-2267
  http://wdfw.wa.gov/com/comintro.htm
  The Washington Fish and Wildlife Commission consists of nine members serving six-year terms. The Commission’s primary role is to establish policy and direction for fish and wildlife species and their habitats in Washington. The Commission also classifies wildlife and establishes the basic rules and regulations governing the time, place, manner, and methods used to harvest or enjoy fish and wildlife.

- Department of Natural Resources
http://www.dnr.wa.gov/
The Department of Natural Resources provides stewardship of state lands, natural resources, and the environment.

- Washington Department of Natural Resources
  919 N. Township St.
  Sedro-Woolley, WA 98284

- Commissioner of Public Lands
  Washington Department of Natural Resources
  P.O. Box 47001
  Olympia, WA 98504-7001
  (360) 902-1004

- Washington Department of Natural Resources
  Chimacum Office
  5310 Eaglemount Rd.
  Chimacum, WA 98325

- Northwest Clean Air Agency
  1600 South Second Street
  Mount Vernon, WA 98273-5202
  (800) 622-4627

- Washington State Parks and Recreation Commission
  7150 Cleanwater Lane
  Tumwater, WA 98504-2669
  http://www.parks.wa.gov/
  The Washington State Parks and Recreation Commission acquires, operates, enhances and protects a diverse system of recreational, cultural, historical and natural sites.

State of Oregon

- Department of Environmental Quality
  811 SW Sixth Avenue
  Portland, OR 97204-1390
  (503) 229-5696
  http://www.deq.state.or.us/

- Department of Fish and Wildlife
  3406 Cherry Ave. N.E.
  Salem, OR 97303
  (503) 947-6000
  http://www.dfw.state.or.us/

- Department of Forestry
  2600 State St.
  Salem, OR 97310
  (503) 945-7200
  http://www.oregon.gov/ODF/index.shtml

- Department of Land Conservation and Development
  635 Capitol St. N.E., Suite 150
  Salem, OR 97301-2540
  (503) 373-0050
  http://www.lcd.state.or.us/LCD/index.shtml
Theater Assessment and Planning

Department of Parks and Recreation
725 Summer St. N.E., Suite C
Salem, OR 97301
(800) 551-6949
http://egov.oregon.gov/OPRD/index.shtml

Department of State Lands
775 Summer St. N.E., Suite 100
Salem, OR 97301
(503) 378-3805

Oregon Military Department
1776 Militia Way S.E.
P.O. Box 14350
Salem, OR 97309-5047
http://www.mil.state.or.us/

Oregon Water Resources Department
725 Summer St. N.E., Suite A
Salem, OR 97301
(503) 986-0900
http://www.wrd.state.or.us/

State of California

California Environmental Protection Agency
1001 I Street
P.O. Box 2815
Sacramento, CA 95812-2815
(916) 323-2514
http://www.calepa.ca.gov/

Department of Fish and Game
1416 Ninth Street
Sacramento, CA 95814
(916) 445-0411
http://www.dfg.ca.gov/

Department of Forestry and Fire Protection
1416 9th Street
P.O. Box 944246
Sacramento, CA 94244
(916) 653-5123
http://www.fire.ca.gov/php/index.php

Department of Conservation
801 K Street, MS 24-01
Sacramento, CA 95814
(916) 322-1080
http://www.consrv.ca.gov/index/

Department of Parks and Recreation
1416 9th Street
1. P. O. Box 942896
Sacramento, CA 95814
(800) 777-0369

2. State Lands Commission
100 Howe Ave., Suite 100 South
Sacramento, CA 95825-8202
(916) 574-1900
http://www.slc.ca.gov/

3. Commerce and Economic Development Program
Office of Military Base Retention
1102 Q Street, Suite 5000
Sacramento, CA 95814
(916) 324-2566
http://www.commerce.ca.gov

4. Department of Water Resources
P. O. Box 942836
Sacramento, CA 94236
(916) 653-5791
http://wwwdwr.water.ca.gov/

5. State of Alaska

6. Department of Environmental Conservation
410 Willoughby Ave., Suite 303
P.O. Box 111800
Juneau, AK 99811-1800
(907) 465-5066
http://www.dec.state.ak.us/

7. Department of Fish and Game
1255 West 8th Street
P.O. Box 115525
Juneau, AK 99811-5525
(907) 465-4100
http://www.adfg.state.ak.us/

8. Department of Natural Resources - Division of Forestry
550 W. Seventh Ave., Suite 1450
Anchorage, AK 99501-3566
(907) 269-8463
http://forestry.alaska.gov/

9. Department of Natural Resources - Division of Parks and Outdoor Recreation
Director’s Office
550 W. 7th Street, Suite 1380
Anchorage, AK 99501
(907) 269-8700
or
Kodiak Area Office – Ft. Abercrombie SHP
1400 Abercrombie Dr.
Kodiak, AK 99615
• Department of Natural Resources – Division of Mining, Land, and Water
  550 W. 7th Street, Suite 1070
  Anchorage, AK 99501
  (907) 269-8600
  http://www.dnr.state.ak.us/mlw/

• Department of Commerce, Community, and Economic Development
  P.O. Box 110800
  Juneau, AK 99811
  (907) 465-2500
  http://www.dced.state.ak.us/

• Department of Environmental Conservation – Division of Water
  410 Willoughby Ave., Suite 303
  P.O. Box 111800
  Juneau, AK 99811-1800
  (907) 465-5066
  http://www.dec.state.ak.us/

State of Nevada

• Department of Conservation and Natural Resources
  123 W. Nye Lane, Room 230
  Carson City, NV 89706-0818
  (775) 687-4360

  o Division of Environmental Protection
    333 W. Nye Lane, Room 138
    Carson City, NV 89706-0851
    (775) 687-4670

  o Division of State Parks
    1300 South Curry Street
    Carson City, NV 89703-5202
    (775) 687-4384

  o Division of Water Resources
    123 W. Nye Lane, Room 246
    Carson City, NV 89706-0818
    (775) 687-4380

• Department of Wildlife
  380 W. B Street
  Fallon, NV 89406
  (775) 423-3171

International

• Fisheries and Oceans Canada
  Pacific Region
  Suite 200 - 401 Burrard Street
  Vancouver, B.C.
  V6C 3S4
Fisheries and Oceans Canada works to manage and protect the Canadian marine environment in the three oceans that surround Canada.

G.3 Community, Business, and Recreational Groups

- All My Relations
  P.O. Box 1370
  Port Townsend, WA 98368

- Bainbridge Island Chamber of Commerce
  590 Winslow Way East
  Bainbridge Island, WA 98110

- Bremerton Area Chamber of Commerce
  301 Pacific Ave.
  P.O. Box 229
  Bremerton, WA 98337

- Grays Harbor Chamber of Commerce
  506 Duffy Street
  Aberdeen, WA 98520

- Greater Oak Harbor Chamber of Commerce
  32630 SR 20
  Oak Harbor, WA 98277
  (360) 675-3755
  http://www.oakharborchamber.org
  The Chamber works on behalf of members and the entire business community to improve the town’s economic climate and help businesses thrive.

- Greater Poulsbo Chamber of Commerce
  19168-C Jensen Way
  P.O. Box 416
  Belfair, WA 98528

- Kitsap Diving Association
  P.O. Box 1302
  Bremerton, WA 98337

- North Mason Chamber of Commerce
  P.O. Box 114
  Oak Harbor, WA 98277

- North Whidbey Lions Club
  P.O. Box 114
  Oak Harbor, WA 98277
  http://www.lionwap.org/northwhidbey
  The Lions Club is an international service organization dedicated to helping local communities.

- Northwest Sportfishing Association
  (502) 631-8859

- Ocean Shores Chamber of Commerce
  P.O. Box 382
Ocean Shores, WA 98569

- Ocean Shores Marina
  1098 Discovery Ave. SE
  Ocean Shores, WA 98569

- Oregon Fishermen’s Cable Committee
  2021 Marine Drive, Suite 102
  Astoria, OR 97103
  (503) 325-2285

- Oregon State Marine Board
  P.O. Box 14145
  435 Commercial St NE #400
  Salem, OR 97309
  (503) 378-8587
  http://www.boatoregon.com/

- Pacific Coast Federation of Fishermen’s Associations
  P.O. Box 11170
  Eugene, OR 97440-3370
  (541) 689-2000
  http://www.pcffa.org

  The PCFFA is the largest association of commercial fishermen on the west coast.

- Port Ludlow Chamber of Commerce
  P.O. Box 63505
  Port Ludlow, WA 98365

- Port of Port Townsend Commissioners
  P.O. Box 1180
  Port Townsend, WA 98368

- Port of Grays Harbor
  P.O. Box 1500
  Aberdeen, WA 98520

- Port of Hoodsport
  P.O. Box 329
  Hoodsport, WA 98548
  (360) 877-9350

- Port Orchard – South Kitsap Chamber of Commerce
  1014 Bay Street, Suite 8
  Port Orchard, WA 98366

- Port of Poulsbo Marina
  P.O. Box 732
  Poulsbo, WA 98370

- Poulsbo Yacht Club
  12129 Fjord Drive NE, Suite T
  Poulsbo, WA 98370
  http://www.poulsboyc.org/

- Port Townsend Chamber of Commerce
  2437 E. Sims Way
Port Townsend, WA 98368

- Quilcene Boat Haven
  1731 Linger Longer Road
  P.O. Box 98
  Quilcene, WA 98376
  (360) 765-3131

- Quilcene – Brinnon Chamber of Commerce
  P.O. Box 774
  Quilcene, WA 98376
  (360) 765-4999

- Quilcene Marina
  1731 Linger Longer Road
  P.O. Box 396
  Quilcene, WA 98376
  (360) 765-3131

- Rest-A-While Marina
  27001 N. U.S. Hwy 101
  Hoodsport, WA 98548
  (360) 877-9474
  http://www.restawhile.com/

- Rotary Club of Oak Harbor
  P.O. Box 442
  Oak Harbor, WA 98277
  (360) 675-2573
  http://www.rotary.org
  The Rotary Club is a worldwide organization of business and professional leaders, providing humanitarian service.

- Rotary Club of Poulsbo-North Kitsap
  P.O. Box 1334
  Poulsbo, WA 98370
  http://www.poulsborotary.org/
  The Rotary Club is a worldwide organization of business and professional leaders, providing humanitarian service.

- Seabeck Marina
  15376 Seabeck Highway
  Seabeck, WA 98380
  (360) 830-5179

- Shelton Mason County Chamber of Commerce
  P.O. Box 2389
  Shelton, WA 98584

- Silverdale Chamber of Commerce
  P.O. Box 1218
  Silverdale, WA 98383
  (360) 692-6800

- Washington Kayak Club
  P.O. Box 2426
Seattle, WA 98124
http://www.washingtonkayakclub.org/

- Washington Scuba Alliance
  6758 Cascade Avenue SE
  Snoqualmie, WA 98065

- Washington Troller Association
  P.O. Box 7431
  Bellevue, WA 98008

- Washington Water Trails Association
  4649 Sunnyside Avenue N, #305
  Seattle, WA 98103
  (206) 546-9161

- Westport Marina
  326 East Lamb
  P.O. Box 1601
  Westport, WA 98595
  360-268-9665

- Whale Watch Operators Association Northwest
  P.O. Box 2404
  Friday Harbor, WA 98250
  http://www.nwwhalewatchers.org

  The Whale Watch Operators Association Northwest is a group of companies dedicated to responsible wildlife viewing.

G.4 NGOs, Environmental Groups, and Research Organizations

- Acoustic Ecology Institute
  45 Cougar Canyon
  Santa Fe, NM 87508
  http://www.acousticecology.org/

- American Cetacean Society
  http://www.acspugetsound.org
  The mission of the American Cetacean Society is to protect whales, dolphins, porpoises, and their habitats through research, education, and conservation actions.
    - American Cetacean Society Headquarters
      P.O. Box 1391
      San Pedro, CA 90733-1391
    - American Cetacean Society, Puget Sound Chapter
      P.O. Box 17136
      Seattle, WA 98127
      (206) 781-4860

- Audubon Society
  The Audubon Society’s mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity.
    - Audubon Society, Puget Sound Chapter
      P.O. Box 1012
Oak Harbor, WA 98277  
(360) 678-5562  
http://www.whidbeyaudubon.org

- Audubon Society, Grays Harbor Chapter
  P.O. Box 470
  Montesano, WA 98127
  http://www.ghas.org/

- Audubon Society, Washington State Office
  P.O. Box 462
  Olympia, WA 98507
  (360) 786-8020

- Battelle Marine Sciences Laboratory
  1529 West Sequim Bay Road
  Sequim, WA 98382
  (360) 681-4550
  http://www.pnl.gov/

- Beach Watchers
  P.O. Box 5000
  Coupeville, WA 98239-5000
  (360) 679-7327
  http://www.beachwatchers.wsu.edu/
  Administered by the Washington State University's Extension Program, Beach Watchers comprises university trained volunteers dedicated to protecting Puget Sound's fragile environment through education and public awareness.

- B.C. Endangered Species Coalition
  P.O. Box 383
  Smithers, B.C. Canada V0J 2NO

- Canadian Wildlife Service & Species at Risk
  351 St. Joseph Blvd.
  Hull, Quebec Canada K1A 0H3
  http://www.speciesatrisk.gc.ca/

- Center for Biological Diversity
  917 SW Oak St. Suite 413
  Portland, OR 97205
  (503) 243-6643
  http://www.biologicaldiversity.org
  Combining conservation biology with litigation and policy advocacy, the Center for Biological Diversity is working to secure a future for animals and plants hovering on the brink of extinction.

- Center for Whale Research
  355 Smuggler’s Cove Rd.
  P.O. Box 1577
  Friday Harbor, WA 98250
  (360) 378-5835
  http://www.whaleresearch.com

- Committee to Save the Kings River
  CSKR, P.O. Box 4221
The Committee to Save the Kings River is fighting to permanently protect the Kings River Watershed.

- Defenders of Wildlife
  www.defenders.org
    - Northwest Office
      1880 Willamette Falls Dr. #200
      West Linn, OR 97068
      (503) 697-3222
    - California Office
      1303 J Street, Suite 270
      Sacramento, CA 95814
      (916) 313-5800

- Earth Share of Washington
  1402 Third Avenue, Suite 525
  Seattle, WA 98101
  (206) 622-9840
  http://www.esw.org

  Earth Share of Washington promotes environmental education, volunteerism, and charitable giving by partnering with businesses across Washington.

- Fisheries and Oceans Canada
  Communications Branch
  200 Kent Street, 13th Floor
  Station 13228
  Ottawa, Ontario Canada K1A 0E6
  http://www.dfo-mpo.gc.ca/

- FRIENDS of the San Juans
  P.O. Box 1344
  Friday Harbor, WA 98250
  (360) 378-2319
  http://www.sanjuans.org

  FRIENDS of the San Juans works to preserve the beauty of the areas waters, shorelines, fields and forests.

- Georgia Strait Alliance
  207 W. Hastings St., Suite 607
  Vancouver, BC V6B 1H7
  (604) 633-0530
  http://www.georgiastrait.org

  The mission of the Georgia Strait Alliance is to protect and restore the marine environment and promote sustainability of Georgia Strait, its adjoining waters and communities.

- Greenpeace
  75 Arkansas Street
  San Francisco, CA 94107
  (415) 255-9221
The Hood Canal Coordinating Council is a watershed-based non-profit corporation. It was established in 1985 in response to community concerns about water quality problems and related natural resource issues in the watershed.

Hood Canal Watershed Project Center
P.O. Box 1445
Belfair, WA 98528

Hood Canal Salmon Enhancement Group
22881 NE State Route 3
Belfair, WA 98528
(360) 275-3575
www.hcseg.com

The HCSEG was legislatively established in 1990 to give voice to the community grass roots organizations that had a proactive approach to saving at-risk Wild Salmon populations.

Institute for Fisheries Resources
P.O. Box 29196
San Francisco, CA 94129
http://www.ifrfish.org/

Johnstone Strait Killer Whale Interpretive Centre Society
P.O. Box 2-3
Telegraph Cove, B.C. Canada V0N 3J0
http://www.killerwhalecentre.org/

Kitsap County Conservation District
817 Sidney Avenue
Port Orchard, WA 98366
http://www.kitsapcd.org/

The Kitsap Nearshore Conservation Group
Kitsap Nearshore Coordinating Group
P.O. Box 40900
Olympia Washington 98504-0900
(360) 337-7170

Liberty Bay Foundation
17212 Lemolo Shore Drive NE
Poulsbo, WA 98370
http://www.libertybayfoundation.com/homepage.htm

Long Live the Kings
1326 Fifth Avenue
Suite 450
Seattle, WA 98101
(206) 382-9555
http://www.lltk.org

Long Live the Kings is a private, nonprofit organization committed to restoring wild salmon to the waters of the Pacific Northwest.
Marine Conservation Biology Institute
15805 NE 47th Court
Redmond, WA 98052
http://www.mcbi.org/

Mason County Conservation District
1051 SE Highway 3, Suite G
Shelton, WA 98584
http://www.olywa.net/mcd/index.html

National Wildlife Federation
6 Nickerson Street, Suite 200
Seattle, WA 98106
(206) 285-8707

Natural Resources Defense Council
http://www.nrdc.org
An environmental action organization. It uses law, science, and the support of more than one million members and online activists to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things.
   o Natural Resources Defense Council
      40 West 20th Street
      New York, NY 10011
      (212) 727-2700
   
o Natural Resources Defense Council
      1314 Second Street
      Santa Monica, CA 90401

The Nature Conservancy
Skagit River Office
410 N. 4th Street
Mount Vernon, WA 98273
(360) 419-9825
http://nature.org/wherewework/northamerica/states/washington/
The mission of the Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth.

North Olympic Salmon Coalition
P.O. Box 699
Pt. Townsend, WA 98368
(360) 379-8051
http://www.nosc.org/
NOSC is a non-profit community based salmon recovery organization which provides funding, guidance, technical assistance, and ongoing support for salmon habitat restoration and enhancement.

Northwest Environmental Defense Center
10015 SW Terwilliger Blvd.
Portland, OR 97219
(503) 768-6673
www.nedc.org
NEDC is an independent, non-profit organization working to protect the environment and natural resources of the Pacific Northwest.
Northwest Resource Information Center
P.O. Box 427
Eagle, ID 83616
http://www.nwric.org/

Northwest Straits Commission
10441 Bayview-Edison Rd
Mt. Vernon, WA 98273
(360) 428-1084
http://www.nwstraits.org/nsc.html
The Northwest Straits Commission provides guidance and offers resources to the marine
resources committees of seven counties in Washington, with the goal of mobilizing science to
focus on key priorities and coordinating regional priorities for the ecosystem.

Ocean’s Advocates
Ocean’s Advocates works with policy makers throughout the world to form sound global ocean
policies.
  o Ocean’s Advocates
    3004 NW 93rd Street
    Seattle, WA 98117
    (206) 783-6676
  o Ocean’s Advocates
    370 Grand Ave., Suite 5
    Oakland, CA 94610

Ocean Futures Society
325 Chapala Street
Santa Barbara, CA 93101
http://www.oceanfutures.org/
The mission of the Ocean Futures Society is to explore our global ocean, inspiring and educating
people throughout the world to act responsibly for its protection, documenting the critical
connection between humanity and nature, and celebrating the ocean’s vital importance to the
survival of all life on our planet.

Olympic Coast Alliance
P.O. Box 573
Olympia, WA 98501
(360) 705-1549
http://www.olympiccoast.org/
The purpose of the Olympic Coast Alliance is to assure a healthy coastal ecosystem through
public education and outreach, conservation issue advocacy, Olympic Coast National Marine
Sanctuary support, stewardship programs, and a strong working relationship with coastal tribes.

Olympic Peninsula Women’s Outdoor Institute
97 Schoolhouse Rd.
Brinnon, WA 98320
http://www.opwomensoutdoor.org/
The Olympic Peninsula Women’s Outdoor Institute is dedicated to empowering girls’ and
women’s lives by encouraging and facilitating their connection with nature and the community.
This organization strives to inspire, educate, and enrich through outdoor-based experiences,
community partnership, and environmental awareness.

Orca Conservancy
APPENDIX G
THEATER ASSESSMENT AND PLANNING
NORTHWEST TRAINING RANGE COMPLEX MANAGEMENT PLAN

219 1st Avenue South #315
Seattle, WA 98104
(206) 467-6722
www.reuniteluna.com

• Orca Network
  2403 So. North Bluff Rd.
  Greenbank, WA 98253
  1-866-ORCANET (672-2638)
  http://www.orcanetwork.org
  Orca Network is a non-profit organization registered with the IRS and Washington State,
dedicated to raising awareness about the whales of the Pacific Northwest, and the importance of
providing them healthy and safe habitats.

• Orca Relief Citizens Alliance
  P.O. Box 1969
  Friday Harbor, WA 98250
  (360) 370-5554
  http://orcarelief.org
  Orca Relief is a non-profit organization dedicated to reversing the population decline of the
Southern Resident orcas.

• Oregon Fishermen’s Cable Committee
  2021 Marine Drive, Suite 102
  Astoria, OR 97103
  http://www.ofcc.com/index.htm
  The Oregon Fishermen’s Cable Committee is composed of three fiber optic cable companies and
participating fishermen. The Oregon Fisherman’s Undersea Cable Committee Agreement works
to prevent damage to undersea fiber optic cable rather than collecting damages from fishermen in
the event of damage to the cable.

• Oregon Institute of Marine Biology
  University of Oregon
  P.O. Box 5389
  Charleston, OR 97420
  (541) 888-2581 ext. 200
  http://www.uoregon.edu/~oimb/

• Pacific Environmental Advocacy Center
  Lewis and Clark School
  10015 SW Terwilliger Blvd.
  Portland, OR 97219
  http://law.lclark.edu/org/peac/
  The Pacific Environmental Advocacy Center is the environmental law clinic at Lewis & Clark
Law School. The Center works to advance efforts to protect the environment by serving as a
resource for public interest organizations that need legal representation and to train and educate
law students through direct involvement in complex environmental and natural resource issues.

• Pacific Coast Federation of Fishermen’s Associations
  P.O. Box 29370
  San Francisco, CA 94129-0370
  http://www.pcffa.org/
  The Pacific Coast Federation of Fishermen’s Associations is the largest and most politically
active trade association of commercial fishermen on the west coast. They work to assure the
rights of individual fishermen and fight for the long-term survival of commercial fishing as a productive livelihood and way of life.

- Pacific Fishery Management Council
  7700 NE Ambassador Place, Suite 200
  Portland, OR 97220-1384
  (503) 820-2280
  http://www.pcouncil.org
  The Pacific Fishery Management Council is one of eight regional fishery management councils established by the Magnuson Fishery Conservation and Management Act of 1976 for the purpose of managing fisheries 3-200 miles offshore of the United States of America coastline. The Pacific Council is responsible for fisheries off the coasts of California, Oregon, and Washington.

- Pacific Marine Conservation Council
  http://www.pmcc.org
  The PMMC represents fishing communities and concerned citizens dedicated to sustaining healthy and diverse marine ecosystems on the West Coast.
  - Pacific Marine Conservation Council
    P.O. Box 59
    Astoria, OR 97103
  - Pacific Marine Conservation Council
    P.O. Box 794
    Port Townsend, WA 98368
    (360) 385-2746

- Parks Canada
  25 Eddy Street
  Gatineau, Canada K1A 0M5
  http://www.pc.gc.ca

- People For Puget Sound
  911 Western Avenue, Suite 580
  Seattle, WA 98104
  (206) 382-7007
  http://pugetsound.org
  People For Puget Sound is a non-profit citizens’ group working to protect and restore the health of Puget Sound and the Northwest Straits through education and action.

- People for the Ethical Treatment of Animals
  501 Front Street
  Norfolk, VA 23510
  http://www.peta.org/
  People for the Ethical Treatment of Animals (PETA), with more than 1.6 million members and supporters, is the largest animal rights organization in the world. PETA focuses its attention on the four areas: on factory farms, in laboratories, in the clothing trade, and in the entertainment industry. PETA works through public education, cruelty investigations, research, animal rescue, legislation, special events, celebrity involvement, and protest campaigns.

- Progressive Animal Welfare Society
  P.O. Box 1037
  Lynwood, WA 98046
  (425) 787-2500
  http://www.paws.org/
A Northwest leader in protecting animals since 1967, the Progressive Animal Welfare Society (PAWS) shelters homeless animals, rehabilitates injured and orphaned wildlife, and empowers people to demonstrate compassion and respect for animals in their daily lives. PAWS advocates for animals through education, legislation and direct care.

- Public Employees for Environmental Responsibility
  P.O. Box 2618
  Olympia, WA 98507
  (360) 528-2110
  http://www.peer.org/
  As a service organization assisting Federal and state public employees, PEER allows public servants to work as "anonymous activists" so that agencies must confront the message, rather than the messenger.

- Puget Sound Action Team / Puget Sound Partnership
  P.O. Box 40900
  Olympia, WA 98504-0900
  (360) 725-5444
  http://www.psat.wa.gov
  The Puget Sound Action Team is a partnership of state agencies and tribal and local governments charged with developing and coordinating conservation programs to protect and restore Puget Sound.

- Racerocks.com
  http://www.racerocks.com/
  Lester B. Pearson College
  650 Pearson College Drive
  The islands of Race Rocks are Crown Land of the BC Government. BC Parks administers the island as a Provincial Ecological Reserve. It leases to the Canadian Coast Guard, a division of the Department of Fisheries and Oceans.

- Save our Wild Salmon
  http://www.wildsalmon.org/
  Save our Wild Salmon is a nationwide coalition of conservation organizations, commercial and sport fishing associations, business, river groups, and taxpayer advocates – all joined in a commitment to restore Pacific Northwest wild salmon and the communities that depend on them.
  - Save our Wild Salmon
    424 Third Ave. West, Suite 100
    Seattle, WA 98119
  - Save our Wild Salmon Coalition
    975 John Street, Suite 204
    Seattle, WA 98109

- Shipwrite Productions
  1780 Dean Park Road
  Sidney B.C. Canada V8L 1C1
  http://www.shipwrite.bc.ca/
  Shipwrite’s publications include books and maps about the Pacific Northwest and electronic navigation. Shipwrite also offers seminars and consulting services on a wide range of marine and nautical issues.
• Sierra Club Cascade Chapter
  180 Nickerson St., Suite 202
  Seattle, WA 98109-1631
  (206) 378-0114
  http://cascade.sierraclub.org
  Sierra Club is a grassroots environmental organization dedicated to exploring, enjoying and
  protecting the wild places of the earth while practicing and promoting the responsible use of the
  earth's ecosystems and resources.

• Surfrider Foundation
  Pacific NW Regional Office
  151 Straits View
  Friday Harbor, WA 98250
  www.surfrider.org/
  The Surfrider Foundation is a non-profit environmental organization dedicated to the protection
  and enjoyment of the world’s ocean, waves, and beaches for all people through conservation,
  activism, research, and education.

• University of Washington School of Oceanography
  P.O. Box 357940
  Seattle, WA 98195
  http://www.ocean.washington.edu/2004/
  The School of Oceanography is part of the College of Ocean and Fisheries Sciences at the
  University of Washington.

• Veins of Life Watershed Society
  Box 36057-1153
  Victoria, B.C. Canada V9A 7J5
  http://volws.bc.ca/
  The Veins of Life Watershed Society is a community-based environmental organization operating
  in the Capitol Region District of Southern Vancouver Island, B.C. VOLWS focuses on a
  watershed-based approach and initiates habitat restoration projects, stream cleanups,
  environmental education programs, and public outreach activities.

• Washington Foundation for the Environment
  P.O. Box 2123
  Seattle, WA 98111
  http://www.wffe.org/
  The Washington Foundation for the Environment is a non-profit organization that supports
  environmental education and innovative projects focused on environmental awareness.

• Whale Watch Operators Association Northwest
  P.O. Box 2404
  Friday Harbor, WA 98250
  http://www.nwwhalewatchers.org/
  Whale Watch Operators Association Northwest is a group of companies dedicated to responsible
  wildlife viewing.

• Whale Museum
  P.O. Box 945
  Friday Harbor, WA 98250
  http://www.whale-museum.org/
  The Whale Museum promotes stewardship of whales and the Salish Sea ecosystem.
• Wild Whales, Vancouver Aquarium  
  B.C. Cetacean Sighting Network  
  Cetacean Research Lab  
  P.O. Box 3232  
  Vancouver, B.C. Canada V6B 3X8  
  http://www.wildwhales.org/  
  The B.C. Cetacean Sighting Network’s goal is to increase public awareness of B.C. cetaceans and  
  the conservation concerns affecting them, and to encourage the public to become active stewards  
  of all cetaceans and report their sightings of cetaceans seen in B.C. waters.

International

• World Conservation Union [or International Union for the Conservation of Nature and Natural  
  Resources (IUCN)]  
  630 Connecticut Avenue NW, third floor  
  Washington, DC 20009  
  (202) 387-4826  
  http://www.iucn.org/places/usa  
  The World Conservation Union is the world’s largest conservation network, bringing together 82  
  States, 111 government agencies, and more than 800 non-governmental organizations (NGOs).  
  The Union’s mission is to influence, encourage and assist societies throughout the world to  
  conserve the integrity and diversity of nature and to ensure that any use of natural resources is  
  equitable and ecologically sustainable.

• International Whaling Commission  
  The IWC is comprised of 66 nations. The purpose of the commission is to provide for the proper  
  conservation of whale stocks and thus make possible the orderly development of the whaling  
  industry.  
  http://www.iwcoffice.org

G.5 Tribal Groups

• Bear River Band of Rohnerville Rancheria  
  Brenda Bowie, Chairperson  
  P.O. Box 731  
  Lolita, CA 95541  
  (707) 733-1900

• Big Lagoon Rancheria  
  Virgil Moorehead  
  P.O. Drawer 3060  
  Trinidad, CA 95570  
  (707) 826-2079

• Blue Lake Rancheria  
  Claudia Brudin, Chairperson  
  P.O. Box 428  
  Blue Lake, CA 95525  
  (707) 668-5101

• Colville Business Council  
  Matthew Dick, Jr., Chairman  
  P.O. Box 150  
  Nespelem, WA 99155
(509) 634-4711

- Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians
  
  Gregory A. Norton, Chairperson
  Coos Bay, OR 97420
  (503) 267-5454

- Confederated Tribes of Siletz Indians
  P.O. Box 549
  Siletz, OR 97380
  (541) 444-2532
  [http://ctsi.nsn.us/History_and_Culture.html](http://ctsi.nsn.us/History_and_Culture.html)

- Confederated Tribes of the Umatilla Indian Reservation
  P.O. Box 638
  Pendleton, Oregon 97801
  (541) 276-3165
  [http://www.umatilla.nsn.us/](http://www.umatilla.nsn.us/)

- Coquille Indian Tribe
  Ed Metcalf, Chairperson
  P.O. Box 1435
  Coos Bay, OR 97420
  (503) 756-0663
  [http://www.coquillette tribe.org](http://www.coquillette tribe.org)

- Elk Valley Rancheria
  John Green, Vice Chairperson
  P.O. Box 1042
  Crescent City, CA 95531
  (707) 464-4680

- Guidiville Rancheria
  Keith R. Pike, Chairperson
  P.O. Box 339
  Talmadge, CA 95481
  (707) 462-3682

- Hoh Indian Nation
  2464 Lower Hoh Road
  Forks, WA 98331
  (360) 374-6501

- Hoopa Valley Indian Reservation
  Dale Risling, Chairman
  P.O. Box 1348
  Hoopa, CA 95546
  (916) 625-4211

- Jamestown S'Klallam Tribe
  1033 Old Blyn Highway
  Sequim, WA 98382
  (360) 683-1109
  [http://www.jamestowntribe.org](http://www.jamestowntribe.org)

- Kalispel Business Committee
Glen Nenema, Chairman  
Box 39  
Usk, WA 99180  
(509) 445-1147

Karuk Tribe of California  
Alvis Johnson, Chairperson  
P.O. Box 1016  
Happy Camp, CA 96039  
(916) 493-5305

Lookout Rancheria  
Laura Craig, Chairperson  
P.O. Drawer 1570  
Burney, CA 96013  
(916) 335-5421

Lower Elwha Klallam Tribe  
2851 Lower Elwha Road  
Port Angeles, WA 98363  
(360) 452-8471  
http://www.elwha.org/

Lummi Business Council  
Henry Cagey, Chairman  
2616 Kwina Road  
Bellingham, WA 98226  
(360) 734-8180

Makah Tribe  
P.O. Box 115  
Neah Bay, WA 98357  
(360) 645-2201  
http://www.makah.com

Nooksack Indian Tribal Council  
Ross Cline, Chairman  
P.O. Box 157  
Deming, WA 98244  
(360) 592-5176

Northwest Indian Fisheries Commission  
http://www.nwifc.wa.gov/index.asp

Pit River Tribal Council  
Loomis Jackson, Chairperson  
P.O. Drawer 1570  
Burney, CA 96013  
(916) 335-5421

Point No Point Treaty Council  
7999 NE Salish Lane  
Kingston, WA 98346  
(360) 297-3422  
http://www.pnptc.org/
The Treaty Council’s primary purpose is to assist member tribes in exercising their treaty-reserved rights to harvest finfish and shellfish. Treaty Council staff, including biologists, fisheries planners, and fisheries enforcement officers, work together to ensure that treaty rights are preserved and treaty fisheries and harvests occur in a biologically sound manner.

- Port Gamble S’Klallam Tribe
  31912 Little Boston Road NE
  Kingston, WA 98346
  (360) 297-2646
  http://www.pgst.nsn.us

- Quartz Valley Reservation
  Fred A. Chase, Chairperson
  P.O. Box 737
  Etna, CA 96032
  (916) 467-3307

- Quileute Tribe
  P.O. Box 189
  LaPush, WA 98350
  (360) 374-9035

- Quinault Indian Nation
  P.O. Box 189
  LaPush, WA 98350
  (360) 374-9035
  www.quinaultindiannation.com

- Redding Rancheria
  Edward R. Foreman, Chairperson
  2000 Rancheria Rd.
  Redding, CA 96001
  (916) 241-8979

- Resighini Rancheria
  William J. Scott, Chairman
  P.O. Box 529
  Klamath, CA 95548
  (707) 482-2431

- Round Valley Reservation
  Covelo Indian Community Center
  Joseph A. Russ, Sr., President
  P.O. Box 448, Highway 162
  Covelo, CA 95428
  (707) 983-6126

- Skokomish Tribal Nation
  James Gordon, Chairperson
  N. 80 Tribal Center Rd.
  Skokomish, WA 98584
  (360) 426-4232
  http://www.skokomish.org
• Smith River Rancheria
  Marian M. Lopez, Chairperson
  P.O. Box 239
  Smith River, CA 95567
  (707) 487-9255

• Spokane Business Council
  Warren Seyler, Chairman
  P.O. Box 100
  Wellpinit, WA 99040
  (509) 258-4581

• Squaxin Indian Tribe
  David Lopeman, Chairperson
  10 SE Squaxin Lane
  Shelton WA 98584
  (360) 426-9781
  http://www.squaxinisland.org

• Stewarts Point Rancheria
  Kashia Business Committee
  Calvin H. Smith Sr., Chairperson
  P.O. Box 3854
  Stewarts Point, CA 95480
  (707) 725-0721

• Sulphur Bank Rancheria
  Thomas Brown, Chairperson
  P.O. Box 618
  Clearlake Oaks, CA 95423
  (707) 998-3431

• Suquamish Tribe
  Bernie Armstrong, Chairperson
  P.O. Box 498
  Suquamish, WA 98392
  (360) 598-3311
  http://www.suquamish.nsn.us

• Swinomish Indian Tribal Council
  Robert Joe, Sr., Chairman
  P.O. Box 817
  LaConner, WA 98257
  (360) 466-3163

• Table Bluff Rancheria
  Albert E. James, Chairperson
  P.O. Box 519
  Loleta, CA 95551
  (707) 733-5055
  www.wiyot.com

• Trinidad Rancheria
  Marian Crutchfield, Chairwoman
G.6 Joint Military and Community Organizations

G.7 Military or Veterans Organizations

G.8 Local Media

Washington

- Anacortes American
  The Anacortes American is published each Wednesday by Pioneer Publishing, Inc. The Anacortes American covers local news coverage, sports and recreation, business, arts and entertainment, editorials, and classifieds. It has a circulation of 5,000.

- Associated Press, Seattle Bureau
  www.ap.org
  3131 Elliott Ave. Suite 750
  Seattle, WA 98121-1095
  (206) 682-1812
  The Associated Press is an international news organization offering news, photos, graphics, audio, and video for 1,700 U.S. newspapers and 6,000 broadcast outlets around the world.

- Bainbridge Island Review
  www.bainbridgereview.com
  P.O. Box 10817
Bainbridge Island, WA 98110

Bainbridge Island Review is published twice a week (Wednesday and Saturday) for the residents of Bainbridge Island, WA. The newspaper covers local news, sports, arts and entertainment, and community events. It is published by Sound Publishing, Inc. It has a circulation of 5,838.

- Ballard News-Tribune
  www.ballardnewstribune.com
  Ballard News-Tribune is a local weekly newspaper written for Ballard, WA residents. It is published every Wednesday and has a circulation of 10,000.

- The Bellingham Herald
  www.bellinghamherald.com
  Bellingham Herald is a daily newspaper for the residents of Bellingham, WA. It covers the news and events of the local community. It is owned by McClatchy Newspapers. It has a morning circulation of 27,468 and a Sunday circulation of 34,151.

- Bellevue Reporter
  www.southcountyjournal.com
  The Bellevue Reporter is published bi-weekly by Kind Co. Journal Newspapers. It has a circulation of 28,000.

- Bothell/Kenmore Reporter
  The Bothell/Kenmore Reporter is a free, bi-weekly newspaper published by King Co. Journal Newspapers. Its circulation is 29,471.

- Bremerton Patriot
  www.bremertonpatriot.com
  9989 Silverdale Way #9
  Silverdale, WA 98383
  Bremerton Patriot is a local weekly newspaper that is written for Bremerton, WA. It provides its readers with local news and community events. It is published every Saturday by Sound Publishing, Inc. and has a circulation of 12,531.

- The Bremerton Sun
  www.thesunlink.com
  545 5th Street
  Bremerton, WA 98337
  The Bremerton Sun is a daily newspaper serving Kitsap County. It is owned by E.W. Scripps Co. and has a morning circulation of 31,588 and Sunday circulation of 35,476.

- Business Examiner (South Sound)
  www.businessexaminer.com
  The Business Examiner focuses on business and development issues in Tacoma, Olympia and the surrounding South Puget Sound area. It covers the real estate, construction, corporation, business and financial news relevant to this region. It is published by PCBE, Inc. bi-weekly on Mondays. Its circulation is 10,000.

- Central Kitsap Reporter
  www.centalkitsapreporter.com
  9989 Silverdale Way NW, Suite 109
  Silverdale, WA 98383
  The Central Kitsap Reporter is published by Sound Publishing, Inc. every Wednesday and Saturday. It has a circulation of 18,783.
The Centralia Chronicle
www.chronline.com
The Centralia Chronicle is a daily paper owned by Lafromboise Newspapers, Inc. It has a circulation of 14,083.

The Columbian (Vancouver, WA)
www.columbian.com
The Columbian is a daily newspaper published for residents of Clark County, Washington. Coverage includes local news, sports, and general lifestyle issues. It is published by the Columbian Publishing Co. It has a morning circulation of 49,726 and a Sunday circulation of 58,756.

Coupeville Examiner
The Coupeville Examiner is a weekly community newspaper with a circulation of 1,250.

The Daily World
www.thedailyworld.com
Attn: City Editor
P.O. Box 269
Aberdeen, WA 98520
The Daily World is a local newspaper that serves the Grays Harbor and northern Pacific counties in Southwest Washington. It is published daily by the Stephens Media Group. It has an evening circulation of 16,308 and a Sunday circulation of 16,301.

The Dispatch
www.dispatchnews.com
The Dispatch is a weekly newspaper published every Wednesday by Raintree Published. It has a circulation of 9,700.

The Everett Herald
www.hearaldnet.com
The Herald is a daily newspaper owned by the Washington Post Co. It has a morning circulation of 50,775 and a Sunday circulation of 55,988.

Everett Navy Dispatch
www.everett.navy.mil/dispatch/dispatch.html
The Navy Dispatch is a weekly newspaper with a circulation of 1,500. It is published by the Daily Herald Co.

Federal Way News
www.federalwaynews.net
The Federal Way News is a weekly (Wednesday) newspaper serving residents in the heart of Federway Way, WA, including homes along the water with the zip codes of 98023 and 98003. It is published by Robinson Newspapers and has a circulation of 15,000.

The Islands’ Sounder
www.islandsounder.com
The Islands’ Sounder is a weekly community newspaper, published by Sound Publishing, with a circulation of 3,021.

The Issaquah Press
www.issaquahpress.com
Issaquah Press, a local weekly newspaper, is published every Wednesday. It is written for residents of Issaquah, WA. It is published by Issaquah Press, Inc. and has a circulation of 7,500.
• King County Journal
  www.kingcountyjournal.com
  The King County Journal is a daily newspaper owned by Horvitz Newspapers, Inc. It has a
  morning circulation of 43,300 and a Sunday circulation of 43,400.

• Kitsap Peninsula Business Journal
  www.kpbj.com
  The Kitsap Peninsula Business Journal is dedicated to providing insightful and accurate coverage
  of events and issues affecting the Kitsap County business community. It is published monthly by
  Wet Apple, Inc. and has a circulation of 26,000.

• Kitsap Sun
  www.kitsapsun.com
  The Kitsap Sun is a daily newspaper that provides news, event, and sports coverage for the
  Bremerton area in Kitsap County. It is owned by the E.W. Scripps Co., and has morning and
  Sunday circulations of 31,588 and 35,476 respectively.

• Mercer Island Reporter
  www.mi-reporter.com
  Mercer Island Reporter’s editorial mission is to provide news, information, and entertainment to
  the community. Mercer Island Reporter is written for the population of Mercer Island, WA. It is
  published every Wednesday by Horvitz Newspapers and has a circulation of 5,000.

• Montesano Vidette
  www.thevidette.com
  109 West Marcy
  P.O. Box 671
  Montesano, WA 98563-0671
  The Montesano Vidette is a local weekly paper written for residents of Montesano, WA. It is
  published by the Stephens Media Group and has a circulation of 3,500.

• North Kitsap Herald
  www.northkitsapherald.com
  P.O. Box 278
  18887 Hwy 305, Ste 700
  Poulsbo, WA 98370-0278
  The North Kitsap Herald is the local newspaper for the Poulsbo, Kingston, Suquamish, Hansville,
  Indianola, and Little Boston, WA area. It is published every Wednesday and Saturday by Sound
  Publishing, Inc. It has a circulation of 12,800.

• The Olympian
  www.theolympian.com
  The Olympian is a local daily newspaper that serves Olympia and other areas within Thurston and
  Mason counties. The circulation for the Monday through Saturday editions is 37,968 and the
  Sunday edition has a circulation of 45,291. It is owned by Gannett Newspapers.

• Peninsula Daily News
  www.peninsuladailynews.com
  1939 E. Sims Way
  Port Townsend, WA 98368
  Or
  P.O. Box 1330
  Port Angeles, WA 98362
The Peninsula Daily News, owned by Horvitz Newspapers, Inc., is a daily local newspaper serving the residents of Washington's Olympic Peninsula. The publication covers local news, sports, business, education, and community events. It has a morning circulation of 15,018 and Sunday circulation of 17,085.

- **Peninsula Gateway** (Gig Harbor)
  
  www.gateline.com

  Peninsula Gateway is a local newspaper serving residents of Gig Harbor, WA and the surrounding area. It is published every Wednesday by Olympic Cascade Publishing and has a circulation of 25,000.

- **Port Orchard Independent**
  
  www.portorchardindependent.com
  P.O. Box 27
  2950 SE Mile Hill Dr.
  Port Orchard, WA 98368

  The Port Orchard Independent is published every Wednesday and Saturday by Sound Publishing, Inc. It has a circulation of 16,008.

- **The Port Townsend and Jefferson County Leader**
  
  www.ptleader.com
  P.O. Box 522
  226 Adams Street
  Port Townsend, WA 98368

  The Port Townsend Leader is a weekly community newspaper with a circulation of 10,000.

- **Puget Sound Business Journal**
  
  www.seattle.bizjournals.com

  The Puget Sound Business Journal is edited for members of the Seattle business community interested in staying up-to-date with current regional business and financial trends. Regular issue features include new product development reports, political reports, and analysis of retail and wholesale trade. It is published by American City Business Journals every Friday and has a circulation of 25,254.

- **San Juan Islander**
  
  www.sanjuanislander.com

  San Juan Islander is an internet-only daily news site created in 1999 to provide local news and information to locals and visitors of the San Juan Islands. The site features sections devoted to each island through links which are named the Orcas Islander and the Lopez Island News.

- **San Juan Islands Journal**
  
  www.sanjuanjournal.com

  The San Juan Islands Journal is a community newspaper published every Wednesday by Sound Publishing, Inc. It has a circulation of 4,489.

- **Seattle Daily Journal of Commerce**
  
  www.djc.com

  The Seattle Daily Journal of Commerce is published six days a week (not on Sundays). It serves the Puget Sound region business community.

- **Seattle Post-Intelligencer**
  
  www.seattlepi.com
The Seattle *Post-Intelligencer* is a daily newspaper for western Washington that has a morning circulation of 150,851, Saturday circulation of 218,428 and Sunday circulation of 473,715. It is owned by Hearst Newspapers.

- **Seattle Times**  
  www.seattletimes.com  

- **The Sequim Gazette**  
  www.sequimgazette.com  
  The Sequim *Gazette* is a local newspaper that covers news affecting Sequim area residents. News coverage includes sports, education, government, environment, healthcare, and business. It is published by Olympic View Publishing every Wednesday and has a circulation of 8,100.

- **Shelton-Mason County Journal**  
  www.masoncounty.com  
  P.O. Box 430  
  Shelton, WA 98584-0430  
  The Shelton-Mason County *Journal* is a local newspaper serving the residents of Shelton, WA. It is published every Thursday and has a circulation of 9,398.

- **Snohomish County Business Journal**  
  www.snohomishcountybusinessjournal.com  
  The Snohomish County *Business Journal* is written for the business and technology communities in the Snohomish County, Washington area as a resource of business-related information. It is published monthly by the Daily Herald Co. and has a circulation of 16,000.

- **South Beach Bulletin**  
  P.O. Box 1395  
  South Beach, WA 98595-1395  
  South Beach *Bulletin* is a local weekly newspaper serving Westport, WA and the surrounding area. It is published by Stephens Media and has a circulation of 5,000.

- **South Whidbey Record**  
  www.southwhidbeyrecord.com  
  Sound Publishing, Inc. publishes the South Whidbey *Record*, a semiweekly community newspaper with a circulation of 5,375.

- **The Tacoma News Tribune**  
  www.tribnet.com  
  The *News Tribune* is a daily newspaper owned by McClatchy Newspapers. It has a morning circulation of 128,937 and a Sunday circulation of 143,937.

- **The Vancouver Sun**  
  www.canada.com/vancouver/vancouversun/  
  The Vancouver *Sun*, established in 1886, is a daily broadsheet newspaper serving southwestern British Columbia. It has morning and Saturday circulations of 187,789 and 246,721 respectively, and is owned by the CanWest Global Communications Corp.

- **Vashon-Maury Island Beachcomber**  
  www.vashonbeachcomber.com  
  The Vashon-Maury Island *Beachcomber* publishes arts and entertainment, transportation, sports and local news for the residents of Vashon-Maury Island, WA. It is published every Wednesday by Sound Publishing, Inc. and has a circulation of 4,000.
• Whidbey News-Times
  www.whidbeynewstimes.com
  Sound Publishing, Inc. publishes the Whidbey News-Times, a semiweekly community newspaper with a circulation of 8,174.

• Vigilance
  P.O. Box 95
  Port Townsend, WA 98368

• KCPQ-TV (FOX)
  www.q13.com
  KCPQ-TV is the FOX affiliate for the Seattle-Tacoma market. The station is owned by the Tribune Broadcasting Company and broadcasts locally on channel 13.

• KCTS-TV (PBS)
  www.kcts.org
  KCTS-TV is the PBS affiliate for the Seattle, WA market. The station is owned by KCTS Television and broadcasts locally on channel 9.

• KING-TV
  www.king5.com
  KING-TV is the NBC affiliate for the Seattle-Tacoma market. The station is owned by Belo Corporation and broadcasts locally on channel 5.

• KIRO-TV
  www.kirotv.com
  KIRO-TV is the CBS affiliate for the Seattle-Tacoma market. The station is owned by Cox Broadcasting and broadcasts locally on channel 7.

• KOMO-TV
  www.komotv.com
  KOMO-TV is the ABC affiliate for the Seattle, WA market. The station is owned by Fisher Broadcasting and broadcasts locally on channel 4.

• KLKI-AM
  www.klki.com
  KLKI-AM is a commercial station owned by Berry Entertainment. It broadcasts to Anacortes, WA and its surrounding areas at 1340 AM.

• KSER-FM
  www.kser.org
  KSER-FM is a non-commercial station owned by the KSER Foundation. The station broadcasts a variety of news, talk, and world music in the Lynwood, WA area at 90.7 FM.

• KWDB-AM
  www.kwdb.com
  KWDB-AM is a commercial radio station owned by West Beach Broadcasting. The station is broadcasts in the Oak Harbor, WA area at 1110 AM.

• Northwest Cable News, Seattle
  www.nwcn.com
  Northwest Cable News network provides local and regional news, weather, sports, and information programming to cable subscribers throughout the Seattle/Tacoma metropolitan area, Washington State, Oregon, and Idaho. It is owned by the Belo Corp.
Oregon

- The News Guard (Lincoln City)
  www.thenewsguard.com
  The Lincoln City News Guard serves the residents of Lincoln City and is published every Wednesday by Oregon Coast Newspapers. It has a circulation of 6,200.

- News-Times (Lincoln County)
  www.newportnewstimes.com
  The News-Times is a local newspaper published twice per week, Wednesday and Friday, by Lee Enterprises, Inc. It is written for residents of Lincoln County, OR. It has a circulation of 10,873.

- Heppner Gazette-Times (Morrow County)
  www.heppner.net
  Heppner Gazette-Times is a local weekly newspaper written for residents in the southern part of Morrow County. It is published every Wednesday and has a circulation of 2,000.

California

- Eureka Reporter
  www.eurekareporter.com
  The Eureka Reporter is a free newspaper published three days a week. It has a circulation of 5,000.

Alaska

- The Kodiak Daily Mirror
  www.kodiakdailymirror.com
  Kodiak Daily Mirror is a daily publication serving the community of Kodiak, Alaska and surrounding villages. It is published by MediaNews Group and has a circulation of 3,300.
Figure 10-1. Washington State U.S. Congressional Districts

Source: NationalAtlas.gov
Statewide Legislative Districts


Figure 10-2. Washington State Legislative Districts
Figure 10-3. Oregon U.S. Congressional Districts

Source: NationalAtlas.gov
Source: Oregon Secretary of State Election Division [www.sos.state.or.us](http://www.sos.state.or.us)

Figure 10-4. Oregon State Senate Districts
Oregon House Districts

Figure 10-5. Oregon State House Districts

Source: Oregon Secretary of State Election Division [www.sos.state.or.us](http://www.sos.state.or.us)
Figure 10-6. California U.S. Congressional Districts

Source: NationalAtlas.gov
Source: California legislature [www.legislature.ca.gov/](http://www.legislature.ca.gov/)

Figure G-7. California State Senate Districts
Figure G-8. California State Assembly Districts

Source: California legislature [www.legislature.ca.gov/](http://www.legislature.ca.gov/)
Source: NationalAtlas.gov

Figure 10-9. Alaska U.S. Congressional Districts
Figure 10-10. Alaska State Legislative Districts

Source: State of Alaska [www.state.ak.us/](http://www.state.ak.us/)
Figure 10-11. Nevada U.S. Congressional Districts

Source: NationalAtlas.gov
Figure 10-12. Nevada State Senate Districts

Source: Nevada State Legislature [www.leg.state.nv.us]
Figure 10-13. Nevada State Assembly Districts

Source: Nevada State Legislature [www.leg.state.nv.us](http://www.leg.state.nv.us)